TMF

June 1988

THE MAC FLYER-For Greater Safety in MAC Air Operations

All about Andrews AFB page. . .16

TMF

THE MAC FLYER - For Greater Safety in MAC Air Operations

June 1988 MACSP 127-5 VOL XXXV NO. 6

page 16

page 20

FEATURES

4 What I Didn't Highlight
Limited knowledge is dangerous.

10 Cross Country Flight
An unbroken chain of events may spell "disaster."

13 Daddy Was Never Late!
Never let your guard down.

16 Andrews AFB, The 89th Military Airlift Wing
"Spit-n-polish" professionals, mastering perfection.

20 Spoilers!
A "Mac" MacKenzie safety briefing!

24 Professionalism
Old fashioned idea still pertains.

DEPARTMENTS

3 Excellence in Airmanship
6 Mishap With A Moral
26 Flying-Hour Milestones
28 Quick Stoppers
31 After Deadlines

Gen. Duane H. Cassidy — Commander in Chief
Brig. Gen. Floyd E. Hargrove — Inspector General
Col. Thomas M. James — Director of Safety

Maj. Thomas C. Weinstei — Supervising Editor
Maj. Stephens F. McCauley — Associate Editor
Capt. Daniel T. Daugherty — Associate Editor
Mrs. Frances A. Caldwell — Writer/Editor
Mr. Tommy F. O'Laughlin — Art Director

The MAC Flyer is published by the Director of Safety, Military Airlift Command. The contents are informative and not regulatory or directive. Names of people and places in mishap stories are representative and not necessarily of the aircraft or equipment involved. Information in any article may not be construed as incriminating under Article 31, UCMJ.

Contributions, comments, and criticisms are welcome. Write: *The MAC Flyer*, HQ MAC/XPE, Scott AFB, IL 62225-5101, Autovon 576-3534 or area code 618-256-3534. The editors reserve the right to make any editorial changes in manuscripts which they believe will improve the material without altering the intended meaning.

Subscriptions are available from: The Superintendent of Documents, Government Printing Office, Washington, D.C. 20402. Changes of address for subscriptions mailing should be sent to GPO. Give both old and new addresses, including zip codes. USAF Active and Air Reserve Forces units establish requirements for the magazine through their publication distributor (DAPD). Other U.S. Military units should consult administrative directives. *The MAC Flyer* is published at an approximate ratio of one magazine for every five MAC aircrew members, and one for every twenty MAC Support personnel. Distribution X. DPR: HQ MAC/XPE ISSN 0014-7958

Almost the cover—The New Air Force One

From Left to Right: 1st Lt. Scott A. Schaeffler, Aircraft Commander; SrA. Ervin E. Wyckoff, Flight Mechanic; 1st Lt. David R. Stephenson, Copilot

1st Lt. Scott A. Schaeffler and Crew, Det 10, 37 ARRS, were flying cross country from F.E. Warren AFB, Wyoming, to Davis-Monthan AFB, Arizona. Their mission was uneventful until the second leg of the trip when they suddenly experienced an uncommanded 20-degree left yaw at 500 ft AGL while their *(single-engine)* TH-1F helicopter's master caution and low RPM audio and warning light systems activated. Engine and rotor RPM rapidly decayed into the red area while airspeed fell from 100 to 60 knots. The VVI indicated a descent rate of over 3,000 ft per minute. 1st Lt. David R. Stephenson, copilot, immediately established autorotation and turned the helicopter into the wind. Both pilots and the onboard mechanic, SrA. Ervin E. Wyckoff, scanned the intended landing area for obstructions. Because of the aircraft's high power demand at engine failure and its subsequent high rate of descent, the rotor was still below minimum safe RPM as the aircraft plummeted through 300 ft AGL. At 100 ft, Lieutenant Stephenson slowed forward airspeed and descent rate with cyclic flare, pushing rotor RPM back into the green arc. With Lieutenant Schaeffler's backing on the controls, Lieutenant Stephenson leveled the aircraft and increased collective to cushion the power-off landing. He then terminated autorotation with a near-zero ground speed touchdown resulting in only a *6-inch* slide through the desert brush. Lieutenant Schaeffler completed shutdown procedures while Lieutenant Stephenson and Airman Wyckoff checked for fuel leaks and other hazards. Lieutenant Schaeffler and crew displayed outstanding crew coordination and airmanship during this in-flight emergency. Their actions have well earned the Excellence in Airmanship Award. Congratulations from *TMF.*

WHAT I DIDN'T HIGHLIGHT

You need to know more than what you think you need!

By Capt. Mark E. Cioffi
41 MAS, Charleston AFB, South Carolina

Using a highlighter to mark "important" information is prevalent behavior, especially among aircrew members, when it comes to flight regulations and Dash Ones. I'll admit I've only seen a few dozen Dash Ones besides my own, but I wasn't the least bit surprised to see all the same numbers, limitations, and favorite IP-FEAC questions properly highlighted.

Recently, I was going through this ritual with a new Dash One (to an aircraft I was just learning), when my five-year old, Angela, showed me a homework paper she'd just completed.

The task was to color the pictures and underline (highlight) those pictures starting with the letter "P." She did a fine job of coloring the pictures (if I do say so myself) but didn't underline the pair of pants she had so neatly colored. When I asked her about it, she answered in her most exasperated tone, "Can't you see I've colored them blue? They're jeans, not pants, Dad." It was obvious Angela thought her dad was not capable of correcting her homework, so I promptly handed her off to her much more capable mother. It was one of those times when a child catches you off guard and renders you speechless.

It did become obvious to me though, how our experiences shape our ideas about *what* items are important, and, to a certain extent, which ones we, as aircrew members, highlight (underline), based on our experiences and those passed on by older and wiser aircrew members.

As I went through the "school house" I was careful to highlight the important information; I paid particular attention to Water Ops (since Air-Sea Rescue was my new unit's primary concern) and didn't get overly concerned about high altitude or mountainous operations. After all, the highest elevation in the area is a glacier less than 7,000 feet. Chances of a heavy H-3 working those conditions would truly be a life and death mission due to the limited power in the old and venerable Jolly Green.

After a year in the unit and a couple of successful rescue missions, a call for help came just as I was reporting on alert one afternoon. The details were sketchy—two mountain climbers had fallen, and at least one was seriously injured. Our crew, the DO, Maj. Hampton, the FE, SSgt. Thompson, and I, had the same length of time on station. This would be a first . . . an inland rescue. While the PJs were loading the aircraft, I briefed the flight surgeon. An HC-130, en route to Keflavik, diverted to the scene while Major Hampton debated whether to take off at all. Ceiling was 100 ft overcast and visibility 1/8 mile with rain and fog.

The DO, as cautious a man as I've ever met, decided to wait and see what the '130 had to say about on scene weather.

Capt. Bruce, also known as "Mr. Rescue" (because of the number of rescue missions he had acquired during a week-long TDY on station) was the HC-130 aircraft commander. He radioed the weather was good on scene but the en route weather south and west of the glacier was marginal, at best.

After some discussion, we took off on the only IFR airways published (from one NDB to another), in the clouds, along the south coast. We were at a "nose bleed" altitude of 3,000 ft and about one hour into our flight when Captain Bruce contacted us with a suggestion on how to get to the scene. Since both we and the '130 crew doubted we would ever break out at 3,000, Captain Bruce recommended 9,500 ft (to break out VMC) before crossing over the glacier; but I wasn't sure an HH-3E could reach that altitude. Major Hampton radioed back "King 23, Jolly 15 is cleared to 9,500 and we'll hold until you make radar contact with us and can escort us to the scene . . . and if we've got to fly over the glacier, it better be VFR."

Captain Bruce radioed back, "Jolly 15, King 23, *trust me.*"

We entered a right hand, one minute, holding pattern. The blades were popping in the turn

1987 MAC Flight Safety Writing Contest Honorable Mention

(meaning they were stalling slightly), and as we rolled out of a nicely controlled, in trim, standard rate turn, Sergeant Thompson casually mentioned, "I believe we're limited to half-standard rate turns over 6,000 ft sir."

The major and I glanced at each other, knowing the sergeant was quite right, and the major replied, "Good catch, FE," . . . and it was. For me, it was an obscure fact I'd read a couple times but I wasn't sure which chapter it was in, and I sure knew it was not one of those "important" facts I'd highlighted.

The '130 finally hooked up with us and directed us to the scene. By now the weather was beginning to move in, and if we were going to get to the seriously injured climber, we needed to make a pinnacle landing at an altitude of 5,300 ft on the leeward side of a 5,800-ft plateau. We decided to make the helo as light as possible by getting rid of all excess weight at the bottom of the hill, including a not-so-happy PJ and a delighted flight surgeon.

We began our first approach at a normal angle, but soon into the approach the major called "go-around" and executed a right hand pattern, as briefed. He said he'd make the next approach as steep as he felt comfortable to avoid as much of the turbulent leeside wave as possible. At this point, the major's experience was showing through and I was feeling a little inept. Little, if anything, in my Dash One was highlighted in the mountain ops section, but, after all, we were in a "sea level" unit, right? I even had a 40-page handout from the school house on mountain operations collecting dust somewhere at home. Right about now, I wished I'd reviewed it once or twice in the past year.

After about three more attempts, we finally landed on the pinnacle which was just big enough for the landing gear. As we put the full weight of the helicopter down, the right main gear settled into the loose gravel lava rock, giving us a slight slope to the right. The four of us were very happy to be down and Sergeant Thompson exited the helo and cleared us to lower the ramp. The remaining PJ was on his way to help the mountain climbers (150 yards up slope) with the stretcher.

I was guilty of too narrow a view of my Dash One . . .

Major Hampton gave me the controls as the rotors turned, and took a well-deserved break. He turned and looked out the aft ramp and said, "What a view! You can look out the back and see nothing but grass fields 10 miles below in the valley."

As he turned back around, the nosewheel cocked to the right and slid several feet down slope and to the right, where it became chocked in loose lava rock . . . and stopped. Next, we heard Sergeant Thompson, who was on the long comm chord near the aft ramp, ask in an understandably distressed voice, "What the #%# is happening, sir?"

The major answered, *"We forgot to lock the nose gear."*

I don't think I'd have remembered to do that, had I sat on the pinnacle all day. I began wondering how many more "unhighlighted" non DOV, quiz questions I would miss before this rescue mission was over. I hadn't actually locked a nose wheel or seen it done since schoolhouse days. Yet, it's mentioned several times in the Dash One, and even specifically listed as a CAUTION. I was beginning to think I should've stayed at the bottom of the hill.

Sergeant Thompson found a large rock to further chock the wheel and the major and I decided if the nose wheel broke free, we'd get light on the gear and try to reposition ourselves on the pinnacle. As the climbers came up the ramp, I'm sure we were all thinking about what would happen if, at that point, the nose wheel started to slide down slope.

Our luck didn't fail us that day and we were able to get off that pinnacle and pick up the other PJ and flight surgeon. We got the survivors to a hospital and I experienced the only gratifying feeling of the flight . . . *we had saved a life.* I came away knowing I was guilty of too narrow a view of my Dash One; disregarding information I thought I *probably* would never use. I also knew I had taken a giant step toward becoming an older and certainly wiser aircrew member. I still highlight and I probably couldn't stop if I tried, but I also periodically review my Dash One and flight regulations cover to cover. I'd rather not depend on luck when a little book knowledge will do the trick. ✯

Capt. Mark E. Cioffi, an 1981 OTS Graduate, is currently stationed at Charleston AFB, South Carolina.

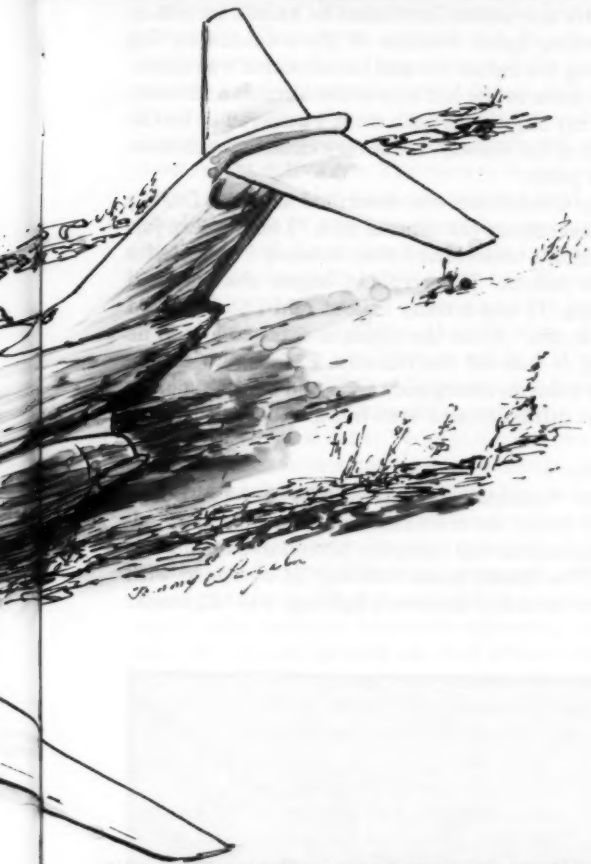
Subtle Pressure--
We put it on ourselves.

Aviation is an undertaking ideally suited to the application of pressure to complete the job. The mechanic gets pressured to fix the aircraft and get it back on the line. The line supervisor gets pressured to finish myriad small tasks to get an aircraft ready to fly. The scheduler gets pressured to man missions on a moment's notice. Everyone involved in operating aircraft gets pressured at one time or another. But in the end, all those subtle, and not-so-subtle pressures get focused on flightcrews to motivate them to complete the assigned mission. As the captain of a commercial airliner found out, those subtle pressures can affect judgment and lead to near-disaster.

Flight History

At 0409 Eastern Daylight Time, 14 October 1984, USAir Flight 4381, a charter flight carrying the Youngstown State University football team from Nashville, Tennessee, to Erie, Pennsylvania, landed 6 ft off the right edge and came to rest 800 ft from the end of Runway 24 at Erie International Airport following an instrument landing system (ILS) approach at published landing minimums. The left main landing gear sank 2 ft in soft ground. The airplane sustained minor damage. None of the 77 occupants were injured.

The flightcrew had arrived in Nashville at 2339 the day before following a ferry flight from Syracuse, New York. During the ferry flight, the flightcrew learned Youngstown, the intended return destination, was below landing minimums. The flight was scheduled to depart at 2400; however, the football team was late arriving at the airport because of a game delay. Weather conditions at Erie, an alternate airport, were forecast slightly above landing minimums. Fog in the northeast and Ohio Valley and varying weather conditions caused several airport closures. While on the ground at Nashville, the crew contacted USAir's Pittsburgh dispatch center to obtain current Youngstown weather so they could decide what to do if they couldn't go to Youngstown.



The captain obtained a complete weather briefing from the dispatcher and, after discussing the weather situation, decided they couldn't land at Youngstown and chances for landing at Erie would be "less than fifty-fifty."

According to the captain, the football team and business manager were disappointed when told the flight would have to land at Harrisburg, Pennsylvania, if weather at Erie continued deteriorating. They preferred to stay in Nashville, but weren't able to find lodging for the entire team. They wanted to land at an airport in the Ohio Valley and expressed concern about obtaining ground transportation from Harrisburg to Youngstown. The USAir dispatcher told them bus transportation was readily available at Harrisburg and that, in his opinion, Harrisburg was the logical alternate airport. However, the captain and dispatcher decided there was sufficient fuel to allow the captain to "... take a look at Erie and continue to Harrisburg" if necessary. The captain stated Erie "... had minimum weather for the approach. I didn't think the weather would hold but it had minimum weather." The business manager made arrangements for bus transportation from Erie to Youngstown. If unable to land at Erie, the airplane would fly to Harrisburg where weather was clear with 15 miles visibility—the team would board buses there for the trip to Youngstown.

The flight departed Nashville at 0215 and climbed to FL 330. During the flight, the business manager entered the cockpit and occupied the cockpit jumpseat and remained there throughout the flight. The captain stated the business manager was "... fairly persistent in requesting progressive information on the status of the flight," and the captain accommodated him two or three times. Reportedly, the business manager didn't interfere in any way.

During the flight, the dispatcher informed the flightcrew Erie's weather was deteriorating. The captain asked if he should proceed to Harrisburg. The dispatcher responded he believed there was still a possibility to land at Erie. The captain decided he would leave holding at Erie when fuel reached 10,500 pounds. At 0250, Erie weather was: indefinite ceiling—100 ft, sky obscured; visibility—1/4 mile in fog; temperature—53 degrees F; dew point—50 degrees F; wind 170 degrees at 4 knots. While in contact with Cleveland Center, the flight obtained clearance to descend to 14,000 feet. At about 0319, the flight replied, "... we'd like to stay up a while, it looks like we're gonna have to hold pending improvement in Erie's weather, we'd like to stay at fourteen." At about 0325, when the flight was 15 miles from Erie, the Center controller reported, "... we haven't had anyone going to Erie for the last couple hours ... one did make the approach, reported the weather was about a hundred ft above minimums." The controller then reported he didn't have communications with Erie and the flight should let him know when it wanted to commence the instrument approach. The flight responded it was in communication with its dispatch center and they were checking the weather.

Subsequently, the dispatcher reported visibility as 3/8 mile. At his request, the flightcrew obtained further clearance to hold at the initial approach fix to Runway 24 instead of the VOR in order to be in a better position to execute the approach in the event visibility improved to ½ mile. (Landing weather minimums for a full ILS to Runway 24 were ½ mile visibility and decision height of 200 ft; however, without the runway alignment indicator lights or approach light system operating, minimums were ¾ mile visibility and decision height 200 feet.)

At 0332, the flight requested, "We'd like to go down to procedure turn altitude twenty eight hundred feet, and go to Cascade" (initial approach fix for the ILS Runway 24). The controller provided the following clearance: ". . .cleared to Cascade, maintain twenty eight hundred, report established in the holding pattern." The flight acknowledged the clearance. At 0337, the controller reported losing radar contact with the flight and the flight replied it was approaching 2,800 feet. Although the flight was within radio range, this was the last transmission air traffic control received from the flight.

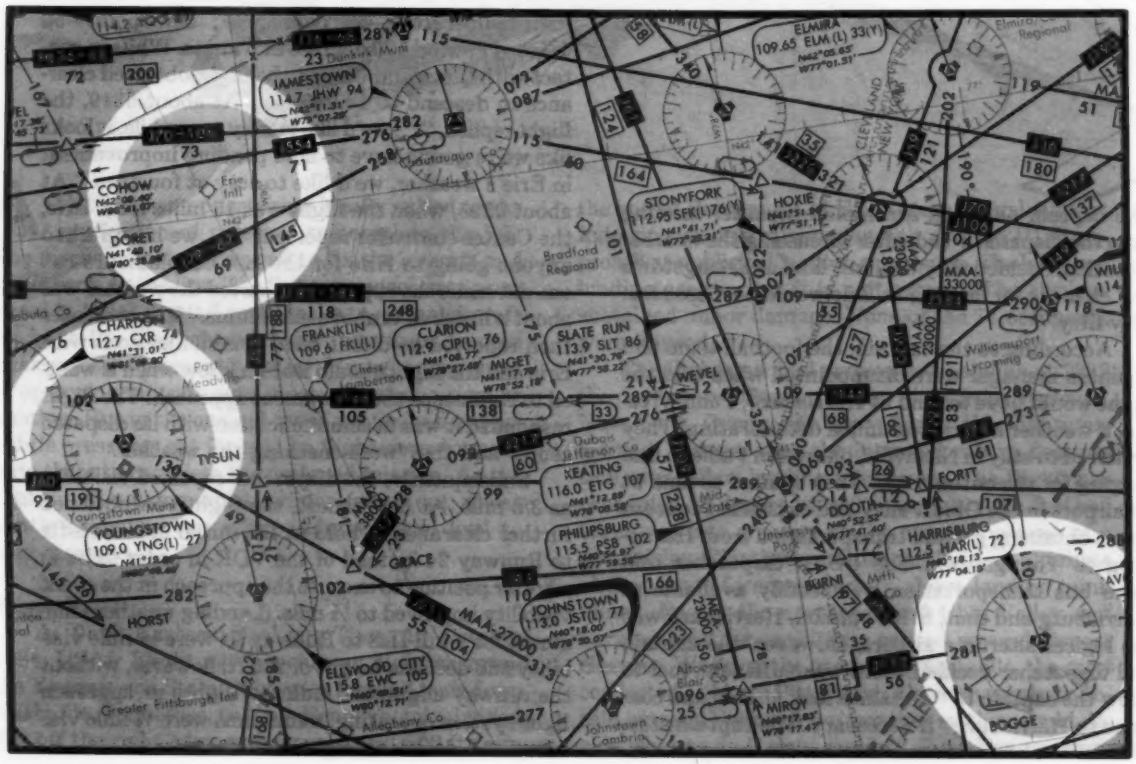
Twenty nine minutes later, the National Weather Service reported visibility at Erie as 1/2 mile. The Erie station agent relayed this to the flightcrew through the dispatcher. Shortly thereafter, the flightcrew departed holding and commenced the approach.

After completing the final checklist, the captain intercepted glide slope and flew a stabilized approach without difficulty. The first officer made standard company call-outs. He called "decision height" and said, "I don't have it." The captain then scanned left and right and spotted lights off to his right ". . . at about the 12:30 to 1 o'clock position." He stated he turned the landing lights on ". . . as soon as I saw the airport environment." He thought he was slightly left of course and made a small roll correction to the right. He also stated he wished he hadn't turned on the landing lights because of glare caused by fog reflecting the lights. He said his attention was directed ". . . more to the left side of the aircraft and maintained my alignment with what I believed to be the left side of the runway. I was very close to touchdown at this point."

The touchdown was described as hard. During the initial rollout, the captain said, "I felt a sharp jolt and I didn't understand that because I expected a smooth rollout. The airplane began shaking and vibrating. It was a noisy rollout and I thought I'd blown a tire." After the airplane came to a stop he realized it was off the runway. Passengers disembarked from an emergency slide and overwing exits without difficulty and were bussed to the terminal.

Analysis

The National Transportation Safety Board (NTSB) found the crew failed to follow certain Federal regulations and company procedures during the flight. The Board found Runway 24 equipped with medium intensity approach lighting and alignment



indicator lights. When the control tower is closed, (at Erie between 2300 and 0600) pilots must activate the lights by keying the microphone on the local control frequency. The system consists of a three-step control response to three, five, or seven clicks to achieve various lighting intensity levels. Seven clicks within 5 seconds would obtain the highest intensity level. Approach lights remain on for 15 minutes after the most recent activation. The runway is also equipped with a five-step high intensity runway light system. The lights are at step two when the tower is closed. At the time of the incident a short in the wiring had reduced the intensity level to step one. Even though the flightcrew was aware of the fact they had to activate the approach lights, they failed to do so.

The flightcrew also failed to notify ATC when established in the holding pattern at 2,800 ft and when commencing the instrument approach.

They violated other Federal regulations by permitting an unauthorized person to occupy the cockpit observer's seat and didn't keep the cockpit door closed and locked. Most importantly, they executed the approach below specific weather minimums authorized for the instrument approach since they failed to turn on the approach lights as required for the ½ mile visibility minimum approach. Additionally, the captain ignored the first officer's report of not having the runway environment in sight and descended below decision height in an attempt to complete the approach when he should have made a missed approach.

The Board believed fatigue may have played a part in this accident. The flight's late hour, combined with the number of hours the captain had been awake, may have contributed to his being less than fully alert.

The captain awakened at 0830 the previous morning and had been on duty since 1325 that afternoon. Thus, at the time of the accident, he'd been on duty for over 14.5 hours and awake for 19.5 hours. Had the flight ended successfully in Pittsburgh, he would have exceeded the company's maximum allowed duty time of 14 hours within 24 consecutive hours. (Company pilots can, however, make a special request for up to 15 or 16 hours as necessary.) The first officer hadn't flown for a week. He remained on the west coast until traveling to Pittsburgh on 12 October. However, he reported for duty at 1740 on 13 October and had been on duty for 10.5 hours. This situation suggests the flightcrew may have been fatigued, which may have degraded their ability to be fully alert and make sound decisions.

Another factor which probably contributed to the flightcrew's deficient performance was the subtle, yet controllable, pressure exerted on them by the football team's business manager and the dispatcher's apparent desire, as well as the captain's, to accommodate the team. The Board believed the business manager's presence in the cockpit observer's seat was distracting and a constant reminder to the captain of the advantages in landing the team at Erie.

Although holding over Erie was a conservative course of action, the time spent there reduced available fuel. They couldn't legally initiate an approach with a report of weather below landing minimum. However, once the one-half mile visibility report was received, the flightcrew had only two courses of action: either land successfully at Erie on the first approach or proceed directly to Harrisburg. There wasn't enough fuel to proceed to Harrisburg if a second attempt to land at Erie was unsuccessful.

It's apparent that when the airplane reached decision height, the captain, without the aid of approach lights, didn't have sufficient visual cues to execute the landing safely and successfully. His decision to complete the approach under these conditions was contrary to company procedures, Federal regulations, standard safe operating practices, and flightcrew coordination concepts. He should have executed a missed approach at decision height.

Probable Cause

The Board determined the probable cause of this accident was the captain's failure to initiate a missed approach when the first officer reported not having the runway environment in sight at decision height. The Board also believed the flightcrew's reduced performance level was the result of their susceptibility to subtle pressure provided by the business manager who occupied the jumpseat and, possibly, a reduced level of alertness due to fatigue. The dispatcher contributed to the accident because he encouraged the flightcrew to attempt to land at Erie.

Application to MAC

We can very easily change a few terms in this article and perfectly describe a MAC mishap. Substitute aircraft commander for captain, DV for business manager, and command post for dispatcher. Fatigue is an old MAC hazard that will always be with us. We just have to learn to cope with the pressures these sources sometimes apply and remember the goal isn't just mission accomplishment—it's *safe* mission accomplishment. This captain had it wired—the copilot gave him all the information needed to make the proper decision. A borrowed quote says it all—*"A large part of safe landing technique is knowing when not to."*

NTSB/AAR-88/03/SUM

The Cross Country

Don't be complacent and ignore what's going on around

By Col. Gary D. Koch
Deputy Director of Safety

Back in the late 60s and early 70s when I flew missile support at Minot AFB, North Dakota, ("Only the Best go North" was their motto), any flight that took us over 75 miles from base was considered a "cross country." It was a very rare opportunity indeed when we did the "real thing."

I was thrilled when I was selected to go to Indian Springs Auxiliary Field, Nevada, to pick up a fairly new (1966 model) H-1F helicopter. Being an experienced helo pilot and instructor, it was only fitting I take 2d Lt. Smith with me to show him the ropes. Plus, we took a highly qualified flight mechanic, Sgt. Jones, who could kick the machine in the right place if we had a problem.

Our flight-planning was meticulous. Stops were based on an average no-wind speed of 90 kts; in three hours we could cover 270 miles. We cut up ONC charts for each leg of the trip and ensured we had a corresponding Texaco road map to refer to in case we had to fly IFR, (I follow roads).

With all our flight planning done, the appointed day to depart for Indian Springs arrived. We flew to Las Vegas and were met by the unit maintenance officer, Lt. Black. He told us the aircraft would be ready for functional check flight (FCF) the next day. He also informed us there were no quarters at "The Springs" and we'd be billeted in Las Vegas at the Stardust Hotel. (If that was the way they wanted it, it was okay with me.) Lieutenant Black drove us to the hotel, gave us the keys to our transport, an Air Force blue station wagon, and a map to get us to work the next day. He finally left, leaving it up to our imagination to find something to do and, saying only "Good luck!" (What did he mean by that?) The next day dawned brightly as we drove out of Las Vegas. We knew the FCF would be extensive, so we didn't plan to leave for home until the next day. Everything went well with the flight test but there seemed to be a discrepancy with the paperwork. The unit hadn't complied with a TCTO requiring extensive sheet metal work and installing a cowling latch. Support to do this had to come from Nellis AFB, about two hours away. There went our plans to leave the next day. Darn! We wound up spending two more nights in Vegas before the helo was ready to go. My wallet was ready to leave the day before. (Now I know what the maintenance officer meant with his "Good luck!")

Our flight planned route would take three full days to reach Minot. Leg 1 included the garden spot of Cedar City, Utah, en route to Hill AFB, Utah. Leg 2 would take us to Rock Springs and Casper, Wyoming. The third day was the longest. We'd zip into Ellsworth AFB, South Dakota, and continue to Bismarck, North Dakota, for our final gas stop before heading up U.S. 83 to Minot. The trip was a piece of cake. A tour of the west with Uncle Sam footing all the bills was a great TDY. (For some reason however, I didn't think the per diem covered all our expenses in Vegas.)

Day 1 went as planned. Weather couldn't have been better and the scenery through southern Utah was spectacular, especially Zion National Park. With our ar-

Flight

you . . .

rival at Hill AFB and the first day's travel behind us, we felt confident the rest of the trip would be as smooth. Good weather was forecast with favorable winds the entire trip. That night we checked out the "Covered Wagon" in the O'Club, had an early dinner, and retired to rest up for the next day's adventure.

Day 2 was mild, temperature-wise, but skies were overcast with possibility of rain. (The forecaster had lied the night before when he predicted good weather.) However, current route forecast of 3,000 overcast, 10 miles vis, light winds, and drizzle was well above our minimums. Without giving it a thought, we pressed on with our mission.

The flight to Rock Springs was boring. The barren terrain didn't offer any changes as far as the eye could see. One thing we did notice, though, was the overcast getting darker to the north and the ceiling seemed lower as we flew east. We knew we had a terrain elevation increase of 1,400 ft between Hill and Rock Springs which explained the lower ceiling. When we landed at Rock Springs the Flight Service Station (FSS) representative confirmed our suspicions.

The ceiling was now 1,400 overcast, still well above our minimums. He said he'd received a PIREP of rain to the east and northeast in the direction of Casper. (Great! That's where we were headed.) Lieutenant Smith finished flight planning and Sergeant Jones wrapped up the refueling and oil level checks. After a bite of lunch we were ready to go. "No need to recheck weather," I told Lieutenant Smith. "It's only been an hour since we were briefed. Besides, we can go down to 700 and 1 before thinking of having to land." Famous last words?

Off we went with "Have a nice day" from the FSS agent ringing in our ears. The air was smooth at 1,000 ft AGL and the OAT had dropped about 10 degrees, making for a comfortable flight. It was my leg so I was doing all the flying, Lieutenant Smith the navigating, and Sergeant Jones sitting in back enjoying the scenery. While flying along, the lieutenant and I talked about navigation and map reading—how to always project yourself along the route of flight well ahead of the aircraft, looking for trouble areas and prominent terrain features (like the 8,000 and 10,000-foot peaks ahead of us) and how to maintain ground track in relation to obvious navigation aids. Pilotage can be difficult, especially if you don't take all things around you into account. During our discussion, I was aware the terrain was gradually rising. We'd climbed to the point where our rotors were stirring up the bottom of the overcast cloud deck. We were still approximately 800 ft AGL with visibility around 5 miles in light rain showers. "Holy Smokes! What was that?" I yelled. A streak of light like a bar of white hot steel flashed through the cloud deck and hit the ground off the right side of the helicopter, igniting a small scrub bush on the ground. "Boy, that was close. That had to be only a half mile away, if that," I said. It started to rain buckets now and I had to do most of my eyeballing out the side window to clear my flight path, since the windshield wipers couldn't keep up with the steady downpour.

"Hey, look at that," said Sergeant Jones, pointing out the right side of the aircraft.

We saw antelope running along below our helicopter.

"Gee, they look big, and they sure can run fast to keep up with us," I said. Then it dawned on me. To see better, I'd subconsciously slowed to 40 KTS and descended to get away from the clouds. Those antelope were only 50 ft below our craft and doing a good 20 mph. They were gracefully running along, occasionally jumping or going under a fence in their path.

The vis had really gone to pot now. We figured we were only 20 minutes from Casper as "the crow" flies (but he wasn't flying in this weather). The rain and ever-decreasing ceiling had forced us to a hover taxi pace at 10 to 20 ft AGL. Then it happened. Because of the reduced visibility (about a quarter mile), we had hover-taxied ourselves into a "coulee," or small box canyon at 7,400 ft MSL. We saw trees on both sides and in front. We were at a dead-still hover without enough room to turn around to find out what was behind us, eliminating the option of backing up. "Damn, I wish we'd checked weather again after lunch in Rock Springs," I said under my breath. Little did I know, we'd have learned a front was moving through the Casper area faster than originally forecast. Had we waited another two hours, the front would have passed with nothing but clear air behind it.

But, not knowing that, I was stuck in a coulee trying to figure out the best course of action. I asked Lieutenant Smith and Sergeant Jones to open both side doors and try to see above us. Once we determined there was nothing of immediate danger I decided to hover straight up to clear the coulee. Visibility was down to 50 yards in all directions now, but we could still pick out trees, rocks, and bushes. Up we went, slowly, oh so slowly. It

seemed to take forever to climb the 100 ft or so to get out of that tree-lined ditch. I guess luck was with us as we cleared the coulee; just off to our right there was a spot large enough to land. Land we did. Now what? Fuel was becoming a concern since we had 45 minutes of fuel left, and at last nav checkpoint we had about 20 minutes to go to destination at 90 knots. However, we'd been hovering around the last 15 minutes burning up fuel and not cutting into that original 20 minutes.

Then out of the corner of my eye I noticed the bearing pointer on the RMI swing around and lock on the Casper VORTAC and the "off" flag disappear. DME indicated 20 miles. Was this another bit of luck? We figured there were no big obstacles in front of us except for an occasional tree. Sergeant Jones had checked that out on a quick recon of the area. With the bearing pointer indicating rock solid off our nose, I keyed the mike and called Casper Radio.

"Casper Radio, Casper Radio, Save 69."

"Go ahead Save 69, this is Casper Radio."

"Roger sir, Save 69 is 20 miles south. Request latest weather and altimeter."

"Roger. Casper is 1,500 overcast, visibility 10 miles, winds variable at 5, altimeter 29.81, over."

"Roger, copy 29.81 Casper. Please give tops of overcast."

"A recent PIREP estimates overcast extends to 8,500 ft before breaking into clear."

"Roger, copy, Save 69 is at 7,500 ft. Request climb to 9,000 ft and proceed direct to the VORTAC for the VOR-B approach to Runway 27."

"Save 69 is cleared as requested."

Boy, was I glad he didn't ask what we were doing at 7,500 ft in the clouds, south of Casper in an area of 10,000-foot mountains. Now all we had to do was get to 9,000 ft through a solid overcast and hope there were no high tension power lines overhead. After discussing all available options and ramifications, we decided to do another zero airspeed climb until we cleared all obstacles. (This was not the ITO procedure I was taught at helicopter conversion school at Sheppard AFB.) I briefed I would steadily increase collective until we were clear of surrounding terrain and trees, at which point I would pull max power to climb as quickly as possible. The other crewmembers were to scan like crazy. It took an eternity to climb that 1,000 ft or so and, boy, was it gray outside. Luckily, the temperature was above freezing and we didn't have to worry about ice. My only big concerns were (1) to get clear of the clouds and (2) hope my one and only engine didn't flameout. (Concern number 2 worried me *plenty.)*

Well, as you can surmise, everything worked out as planned. We broke out and shot the VOR approach to Casper. Once on the ground we collected our nerves and baggage and proceeded to our motel where we had some nerve medicine and a chance to discuss the day's events. (Lieutenant Smith learned more on this leg than he cared to, or could ever learn at table discussions with an instructor.) Some of the lessons learned were: (1) Recheck weather if takeoff is delayed for one reason or another; (2) Develop an alternate plan; (3) Don't be complacent and ignore what's going on around you. Darkness to the east and north should have been a strong enough clue to ask the question—what does *that* mean? (4) Don't let distractions ruin your concentration and situational awareness. All of us should have been more alert to what was happening to our airspeed and altitude. We should never have wound up in that coulee. *I* should have turned around.

Bottom line? We were lucky. The chain of events that causes mishaps was broken, by luck, on two occasions—when we found a place to land where there shouldn't have been one, and when Casper VORTAC locked on. If those two things hadn't happened, plenty of bad things would have. Use your imagination!

Daddy was never late

By MSgt. Charles E. Buchanan
1709 Technical Training Squadron
Palm Beach AFB, FL

(Editor's Comments: While researching our archives for some specific background information, we came across this story published in the January 1959 issue of *The MATS Flyer,* as the Seventh Prize Winner in the '58 MATS Flight Safety Story Contest. I think you'll agree, the most interesting feature to this story is its timelessness. Thirty years later, we experience the same feelings and commit the same errors. Terms have changed somewhat, aircraft have changed a lot, but humans are still human.)

Focusing for distant vision against a noncontrasting sky was an optical problem long before man took to the gossamer trails of the heavens for his itineraries. Move the setting beyond all earth contrast whatsoever, say, about 14,000 ft up on a cloudless day, and start with a measure of sleeplessness. Add a dash of boredom induced by a long flight, and a pinch of reveries demanded by a rebellious nervous system, and the resultant potion can spell—DEATH.

This is almost a thumbnail biography of Maj. Bill Peyton and crew. Thousands of flight hours that old boy had in the blue, and, if ever there was an apostle of flight safety, he was it. Even as a school boy back in Iowa, he was the most cautious lad you ever saw. Always wanted to do things the right way, with an eye cocked for any discrepancy.

In state college, his frat brothers dubbed him "Mr. Dubious" because of his healthy reluctance to take chances. When World War II came along and he became "Cadet Peyton" at flying school, he continued to be a stickler for the letter of the law to such extent that he quickly earned the nickname "Granny." When he and his crew had to "hit the silk" from a B-17 over Anzio, everyone back home knew it was because of a couple cowlings full of "ack-ack," and not through any fault of his. If anything, two years as a "guest" of the Jerries had changed him only to the extent of emphasizing how tenuous is the grip of flesh and blood on life.

Funny thing about it was, though friends had always laughingly supplied nicknames due to his passion for caution, Bill was well liked and a regular in every sense of the word.

About ten o'clock on this particular morning, he was slumped in the aircraft commander's seat of the sleek Charley Ninety Seven hurtling along through a cloudless morning sky. They were on a coast-to-coaster from a base in Carolina, bound for their own home strip of asphalt in the Pacific area, having been airborne a little more than an hour. Major Peyton was the very picture of a well-adjusted man in his middle thirties. A bit chubby of face, he had keen, serious eyes that crinkled ever so slightly at the corners.

His lean-jawed, stringy-framed copilot, Capt. Brad

Jenkins, slowly and thoughtfully folded the map and laid it above the copilot's panel. "Say, that was some fire down at the dope and fabric shop last night, wasn't it?"

Bill nodded grimly. "Yeah, I saw you a couple of times while we were helping them move some equipment. Were the other boys on our crew there? I didn't see them."

"Sure, they were. They helped out quite a bit. Doggonit, we had 'sacked up' for the night—all ready for an early wake-up—when we heard the sirens." Brad captured a crumpled pack of cigarettes from the pedestal, offered one to his pilot, and took a long first breath. "They didn't get the darn thing out till about one-thirty. Then I ran into a guy I knew in Japan, so he and I went over to the Gate Coffee Pot before we turned in. 'Bout three o'clock before I dropped off."

Bill's face darkened with concern. "I sure don't like late hours just before a flight. Still, that was nobody's fault."

Brad expelled a column of blue smoke from reflectively pursed lips. "Anyway, I didn't feel a bit tired this morning. Besides, where better to sleep than up here on these soft, fleecy, white clouds?"

"You know MATS' policy on that." Bill stabbed his finger toward the windshield.

"That's what I mean. Look here, a day every pilot dreams about. A nice cooperative tail wind, and you can see for miles and miles and miles. You could see Frisco, if it wasn't for the limits of your eyes. Man, this skyroad is empty—with a capital 'T'."

Bill nodded toward the book rack. "You know what the good book says."

Brad grinned somewhat sheepishly and crushed out his cigarette. "You don't have to get the handbook to prove a point, Bill. I know you've got a file right there in your mind. You're fast becoming a legend in this man's Air Force. Everyone jokes about your walk-around-and-around-and-around before each flight, the way you pour over the maintenance forms, and the way you cross-examine the crew. But you know, everyone—including yours truly—feels as safe as on his own mama's lap when he's flying with you."

Bill's ears reddened "I don't know about that, but I hope you've all got it pegged for caution—not fear. I love to fly. I think there are born flyers, just like there are born musicians. I'm one—so are you. I just can't forget that Nature doesn't really want us up here. We're like party guests without invitations. The host puts up with us, but on slight provocation, she'll toss us out on our ears. Matter of fact, every time I throttle off into the blue, I feel like I'm in a battle."

"Battle?" Brad's brow rose. "How so?"

"Well, we're using Nature's physical laws against her other laws, like the Law of Forward Thrust to overcome the Law of Gravity. But Nature is always fighting to put those laws back on her shelf, side by side."

Brad rocked the tip of his flight cap in mock dismay. "Man, you're too deep for a mere old throttle jockey like me. Hey, look, big pond ahead. By golly, we're gonna hit our old ETA's right on the nozzle plate."

Thirty years later, we experience the same feelings and commit the same errors.

Outside, the four engines droned sweetly but monotonously. Now and then, a few wisps of clouds scudded swiftly across their wing tips, and the plane jittered slightly. But mostly it was as if they were flying in the vacuum of outer space. The pilots continued to chat for an uneventful hour. Then, gradually, a heavy silence fell between them.

Bill Peyton glanced at his watch and lit another cigarette. High noon. His thoughts flitted ahead, homeward. His wife, Marge, would be having herself a lonely snack about now, or maybe coffee and a sandwich with a neighbor. He smiled as he thought of her slim-for-thirties, girlish figure. Smooth, velvety, and feminine, she looked more like 25 than 35, with her long auburn hair done up in a—what did she call that thing—chignon—that was it. He could see her laughing brown eyes as she had told him goodbye outside the terminal and chided. "Now don't get too friendly with any of those bathing beauties over on those East Coast beaches."

And Betty, his little girl. Not very little anymore. Fourteen years old and just budding into shy womanhood. A dusty sprinkling of freckles on her nose, but the same big brown eyes as her mother. Just experimenting with the adult mysteries of lipstick and nail polish. Matter of fact, she had had her first date last Saturday night. She'd gone to a movie with the lad across the street. Bill had a warm suffusion beneath his breast pocket as he thought how cute they looked when he let them out in front of the theater. The

first timid reach for life.

Bill was suddenly conscious of a gnawing in his stomach. He turned and was slightly annoyed to see Brad's head nodding and eyes going "half-mast." He twisted around farther as his annoyance spread. The engineer was methodically scanning the instrument panel, but his shoulders drooped, and now and then, he pulled his hand over his eyes and tossed his head. Both flight attendants were visible only from their feet dangling in the aisle.

Bill shrugged his shoulders. They had a rough trip over, with the ship loaded with passengers whose requirements kept them jumping. There was no one but the crew on the return trip, and that fire last night had interrupted their sleep. Still, he wished they'd glance out the windows now and then. Often, trouble was obvious back there before it showed up on the panel or in operation.

Then an impish little voice inside him daunted: "Oh, trouble, trouble, trouble. That's all you think about. You, who's never had an accident, are more scary than guys who have clobbered in a rack of 'em.' "

Anyway, he was hungry. He leaned across the pedestal and tapped Brad's sleeve. "Hey lad, how about getting the FAs to rustle us up some chow?"

Brad stirred, shook his head and looked sheepish. "Caught me in a brown study," he grinned, as he wormed out of the seat and threaded his way behind the engineer's panel.

Far below, the terrain crawled by backward, like a sluggish, checkered conveyer belt.

Bill suddenly realized that a buttery sun had come into painful view, staining the windows with a bright glare. He started to prop a map up for a sun shade but caution overruled him. Several times he engaged Brad in conversation, but each time it was an abortive effort. So what could he do? Brad was a fine pilot and officer; so he wasn't exactly alert right now. But, what the heck. You couldn't be an iron pants all your life. He was getting a little weary of being "Mr. Dubious" and "Granny." By golly, the opinion of your associates meant a lot.

He wondered if Brad's tone had been slightly derisive when he had said, "You're fast becoming a legend in the Air Force." Well, he didn't want to be a legend. And it wouldn't be too long now until they were home. These '97 babies sure chewed up the mileage. And the wind was with them.

But the silence was oppressive and the sun glare made his eyes feel gritty. His lids began to feel leaden and a heavy drowsiness possessed him. He remembered a similar feeling when he was a lad back in Iowa, sitting on a river bank on a lazy summer day. Boy, he wished he were there right now. There had been some good fishing in that river down below Old Man Craig's place.

You could see Frisco, if it wasn't for the limits of your eyes. Man, this skyroad is empty—with a capital "T."

Slowly, a kind of hypnotic glow stole over him. Almost imperceptively, his attention seeped inward to the wistful land of fond reverie. As clearly as life, he saw the old fishing bank and could feel the heat beating down on his hat and smell the hot straw odor. Suddenly, the sunlight in front of the windshield flashed on a tiny pinpoint of aluminum a good five miles away. It was an oncoming C-47, barreling toward the '97 in an unwavering collision course. Whatever the myriads of possible reasons, it was there. But Brad's eyes were glazed and drooping and Bill was in the half-real land of boredom-induced-reveries. That is, while his mind was there his body was still in the inexorable world of cause and consequences.

Swiftly and immutably, the sweep hand on the clock in front of Major Bill Peyton pulsated toward the moment of destiny, which all the diligence of tomorrow's investigation board could *never* turn back. There was a sudden wild impact, a blinding flash, and a dull boom of exploding tanks.

A pathetically short distance ahead, in a white frame house, an attractive woman in her middle thirties glanced impatiently at the porcelain-rimmed kitchen clock, and a little girl-woman, with a sprinkling of freckles on her nose, dabbed lip rouge inexpertly on her lips as she prettied herself for the trip out to Operations. She had been making that trip with Mommy since she was a little girl, and Daddy was almost never late.

(We all know a Bill Peyton, his name and face are different, but we know him. We emulate his professionalism and freely admit, though we don't really believe it, that we could be as good as he but we're too lazy to put that much effort into the job. Besides, we rationalize, we're "good enough." Any more effort is just more work—it won't really get us more longevity. And perhaps we're right. However, note carefully how Bill allowed several insidious pressures to overcome his usual meticulousness.

How frail our living existence. How easily two, three, or four, seemingly unimportant occurrences fall together and result in death. Constantly remind yourself of this, never let down your guard; too many others depend on you.)

ANDREWS AIR FORCE

The 89th Military Airlift W

The Demands are Simple—Perfect, Nothi

By Capt. Dan Dougherty
Associate Editor

Everybody's heard it from someone on high whenever they really wanted the job done well: "take a group of your best troops and . . . ." And so it goes; there's no magic in this leadership tenent—it works! If you've got a really tough job to do, assemble a group of the highest qualified and motivated people, give them freedom, authority, and responsibility, and point them in the right direction. After that, hide and watch—the job gets done. "Watch" was what I did when I visited the 89th Military Airlift Wing.

The 89 MAW's charter is narrow in scope, yet almost overwhelming in responsibility: provide safe and reliable worldwide airlift for the President, Vice-President, cabinet members, and other high-ranking dignitaries of the United States and foreign governments. While their mission is certainly one of extreme precision, the advantage is that the 89th enjoys one of the most clearly defined airlift missions in MAC. In a way, this fact says the most about what makes this wing different, and as so many assigned say, "It's the best flying in the Air Force."

The first true "special air mission," flying specifically designated aircraft to transport high-ranking government officials, began in 1936 with activation of the 1st and 2d Staff Squadrons at Bolling Air Force Base, Washington, D.C. The first Air Force One, President Truman's C-118 (the 'Independence') was designated at the same time the 89th's predecessor, the 1254th Air Transportation Group was formed at Washington National Airport in 1948. The wing averages 2,700 worldwide departures per year with an annual on-time departure reliability rate of 99.5 percent.

Recent aircraft inventory gains and retirements put the numbers in a state of flux. As of today, however, they have 44 thoroughly "classy" aircraft assigned: Three VC-137Bs (intercontinental Boeing 707s); 5 VC-135Bs (a Boeing 707 type aircraft built to military specifications), 3 at Andrews and 2 at Det 1, Hickam AFB, Hawaii; 3 VC-9Cs (Douglas DC-9); 10 VC-20s (Gulfstream III); 2 C-12As (Beech Super King Air); and 18 UH-1Ns. The current Air Force One is a VC-137C. The wing is truly looking forward to the arrival, later this year, of the C-25. This Boeing *masterpiece* is a modified 747 that'll become the new Air Force One. Its capabilities are most impressive!

Flying the highest dignitaries aboard such diversified aircraft demands a special organization. The people of the 89th are selectively assigned and must meet rigid requirements. In fact, all crewmembers must formally apply for a Special Duty Assignment, send pictures, and meet a board to earn selection. Prerequisites aren't all that common either. Fixed-wing pilots must have at least 3,000 flying hours before assignment, 200 of which must be instructor time. Rotary-wing pilots need 1,000 hours total with a minimum of 450 first pilot hours, and navigators need a minimum of 2,000 hours over worldwide routes.

Flight engineers and communication system operators possess an average of 14 years experience. In-flight passenger service specialists must be emergency procedure experts, customs specialists, skilled chefs, and possess an instinctive sense of tact and graciousness.

Without question, it takes a highly coordinated *team* effort to accomplish the mission; aircrews could never launch without dedicated support, and 89th support is *extremely dedicated.* Maintenance

CE BASE

t Wing

Nothing Less!

personnel must also meet rigid experience and skill requirements. In fact, the wing's maintenance activity is the only Air Force unit certified as a Federal Aviation Administration repair station.

A recent testimony of their maintainer's skill occurred when MAC's Maintenance Standardization and Evalution Team (MSET) visited Andrews. As the maintenance equivalent to an Aircrew Standardization/Evaluation Team inspection, the MSET thoroughly inspects each MAC maintenance organization on a 24-month cycle. Equipment is scrutinized, aircraft are thoroughly inspected, and individual technicians, supervisors, and quality control inspectors are evaluated while performing tasks. The inspection takes a grueling two weeks.

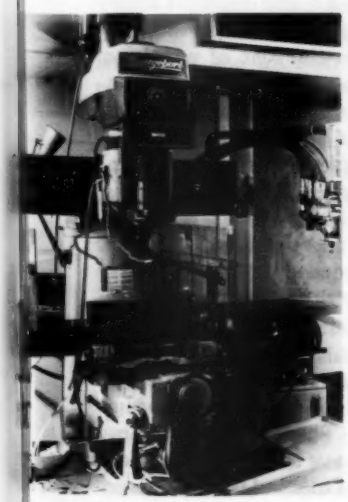
The results provide further evidence of this unique organization's capability—they won the 1986-87 MSET Achievement Award. Their scores topped all other MAC wings of all sizes, and their aircraft and aerospace ground equipment (AGE) scores were the highest awarded to any wing in the past four years.

One of many unique challenges this wing's maintainers step up to is accomplished in the Field Maintenance Squadron's Fabrication Shop. The age, limited fleet size, and customized nature of assigned aircraft demands the capability to design, and in some cases make, a lot of their own replacement parts. The reasons, again, speak of their unique requirements. When this shop goes to work, it's for a part falling into one, or all, of the following categories: They need it NOW! It's a classic one-of-a-kind design, and/or it's for a single operator aircraft.

Speaking of one-of-a-kind, the fab shop bought a thoroughly unique piece of equipment called a Vertical Hydraulic Tracer Mill Digitizer. This impressive device allows the technicians to take practically any part, trace it, and then mill an identical replacement. It's the only maintenance shop in the Air Force with this capability. When you take into account the age of Air Force One, this unique capability is just one example of what this wing does to "keep 'em flying."

With this kind of maintenance requirement, you can well imagine the gyrations their supply squadron goes through to keep up with demand. Because the wing's aircraft travel to exotic places, often parts can only be shipped through diplomatic channels, and they're always needed—*yesterday*. In fact, at every stop, the crew must have the aircraft ready for launch within two hours after landing. Compound these heavy duty demands with the range of parts this supply function has to support: seven different aircraft types, some built in the 50s; some aircraft bought off-the-shelf and only flown here; and others, just plain one-of-a-kind, and you'll gain an appreciation of their supply mission.

Safety, comfort, and reliability—these are the priorities, in order of importance, and the way of life for this unique organization. If you think of it, when it's safe, comfort and reliability generally follow. Take for example their definition of an on-time arrival. They measure the approach and taxi time to parking in order to set brakes as the second hand hits the arrival time. To do so, they have to arrive at the initial approach fix at a specific time. As you can well imagine, any deviation such as winds other than forecast, change of parking spot, etc, will impact "brake set" time. To adjust for the variables, and still make it, two qualities are at work. (1) They operate with such extreme skill and professionalism that they



C-12A (Beech Super King Air)

Vertical Hydraulic Tracer Mill Digitizer. This impressive device allows the technicians to take practically any part, trace it, and then mill an identical replacement. It's the the only maintenance shop in the Air Force with this capability.

Air Force One and crew (at row's end) blocking after flying a local proficiency sortie. Everyone trains for perfection.

Crews will quickly tell you there's never a struggle launching airplanes—the suppliers and maintainers have guaranteed there'd be no problems there.

rarely arrive at any other moment except "on time." (2) When "outside" factors cannot be overcome, and odds cannot be beaten, crews demonstrate the judgment and maturity that got them this job by placing safety first. Number one priority is safety! And, they'll pitch block time rather than compromise it.

Developing a sense of mission identity comes naturally for 89th crews. They do almost everything associated with each mission. VIP airlift missions, excluding Presidential airlift, are generated by the Special Air Missions Division of the office of the Vice Chief of Staff, HQ USAF. An 89th aircraft commander is assigned a tail number, destination(s), departure and arrival times, and a crew. The only major assistance he'll get is when protocol delivers the VIP to the aircraft for departure. The crew does everything else. They plan the mission and execute it from start to finish.

While there, I had the opportunity to "get in the way" for one such mission. My tour guide, Maj. Bob Silver, the wing's Chief of Safety, was tasked on that Friday morning to take a State Department delegation to a foreign head of state's funeral in the Orient. The mission was to depart Tuesday.

They've got a planning room that has about everything needed, from DOD FLIP to Jeppeson; from Embassy contacts to hotel reservations; and that's where we started. Like I said though, I couldn't do much more than get in the way, because Major Silver settled into a routine that left me in awe.

The first priority was the DOD FLIP Foreign Clearance Guide and the all important diplomatic clearances. I was surprised to learn these guys don't have an "in" with this requirement. Like a lot of us I guess, I always thought this prestigious unit could do basically whatever it wanted, worldwide, by just announcing who they were carrying. Not so. It's important to note this isn't the case with most of the things they do. In fact, while this "special airlift" wing enjoys the prestige of their celebrity passengers, when you really look closely, they operate a worldwide airlift mission, and execute airlift missions just like the rest of us. Every mission accomplished requires taxi, takeoff, cruise and navigation, landing, taxi, and putting their craft to bed.

Most MAC aviators could do this mission, so what's different about this group of MAC crewmembers? The answer is their unique attitude toward their mission. It's referred to as the "SAM FOX" attitude. The term was coined by the 89th's predecessor, the 1254th, when the phonetic words for "SF" (special flight) was Sam Fox. The term describes this unit's ideals such as professionalism, precision, and perfection.

The simple fact is, this wing is highly motivated to their mission. You hear it everywhere, from the technician in the AGE shop to the one in supply; from the newly assigned navigator to the wing's senior leadership. They all say "we" whenever speaking of their mission. They each proudly show everyone what they do to contribute to "their" mission. Crews will quickly tell you there's never a struggle launching airplanes—the suppliers and maintainers have guaranteed there'd be no problems there. With that springboard towards launch, what carries the "can do" attitude into the mission?

Two factors; methodical mission planning, and constant intercrew communication. In all fairness to the rest of us, these guys do operate in an environment that allows some luxuries the rest of us don't have. The most striking example is the age and experience group they're filling seats with. I interviewed a flight examiner and wondered, what in the world does he do? After all, a crew force with this experience level surely must do well on tests and checkrides, right? Well, not always. Can you imagine tubing a line check for forgetting to order dry ice? These aircraft commanders have additional considerations that most of us have never

dreamed of.

Another luxury they have is the duty of doing *all* the mission planning. I call this a luxury; others may not, but many times I'd prefer to know that everything needed was done. That is, all reservations were made, parking and services coordinated, dip clearences, etcetera. I'm also sure the overworked barrel masters and current ops types would have also preferred that I did it. But we all know this could never work in either a strategic or tactical airlift wing; but I still consider it a luxury.

However, there're two sides to this sword, and if you want to play ball in this league you've got to be ready to take injuries. Another policy that makes this wing different is that the aircraft commander has the entire responsibility for the mission. It's his from assignment to finish. He not only is allowed to do it, but he's held accountable for his mistakes. There isn't any command post to blame for late lunches, no transient maintenance to say "fix it," and then get lost for two days, or anyone else to blame for not doing something. It's *all* up to this crew, and the aircraft commander. The payoff comes with high visibility. This is where their methodical planning comes into play. Every aspect of the mission must be taken into account, discussed, and solved before the "gear up" call.

Here again though, we can all learn a lesson. One of the unique items found in their flight planning room was a "this is what happened the last time," card file. This file contains the latest info, like: Where are the NAVAIDS in relation to the field? What is peculiar about the field, the controllers, etc? What bizarre things have happened there in the past? It's reviewed by every crew prior to going wherever they may be going. And it's religiously updated by every crew upon their return. As a group, the 89th crews know the stakes are high, their visibility makes the evening news, they've got to stick together and work as a team. They carry their teamwork onto the flight deck too, and that's the second factor leading to their successes.

A most important ingredient during flight is they TALK to each other—constantly. There is no forgiveness for surprises during their missions and everyone on the flight deck is mentally flying the aircraft. Whoever is flying is telling what he's thinking, how he's planning to make this turn into taxi, what speed he'll fly on final, and so forth. Everyone else is listening, they too are thinking, comparing how would they do it—is this way better? Worse? Unsafe? And they don't hold back if they don't like it. That's what precision flying is all about, a highly skilled, experienced operator, with a crack pit crew coaching and picking up loose ends— contributing!

There's no reason why we all can't do it this way—we've all got the talent; *the 89th simply cultivates it.* There is time to plan each of our missions more thoroughly than we do. And if it's not enough, there's usually cruise time to pick up loose ends. How many of us are guilty of burning up planning time at the snack bar? Taping the computer flight plan to the DD Form 1801, signing it, and confirming the waypoints as they approach? How many of us study the approach plate for the first time when we give the "mandatory" before landing crew briefing? We don't have to do it this way, we can emulate the extreme professionalism we've all been trained for.

Once airborne, are you really part of a crew, or are you an individual within a group? MAC regulatory guidance directs the pilot flying the aircraft to brief intentions. Does your approach briefing consist of, "We're 30 out, I'll land 50 flaps, crew briefing complete, checklist?" Sure, you can argue that any more is extraneous. You could further convince a new copilot that we're all professional enough to know what's expected, and more talking blocks important radio calls. But I submit to you that perhaps you should study the content of your briefing, some of it probably *is* irrelevant. Furthermore, with this attitude, you've established with the crew that you're not interested in hearing from them, and they will learn that lesson well. You've planted the seed and convinced your crew to abide by, and possibly die by, the deadly philosophy that the aircraft commander *must* know what he or she is doing, so I'll just keep my mouth shut?

These are extreme examples; quite the opposite side of the spectrum from the way the 89th operates. But where on the spectrum do you fall? One 89th aircraft commander told me what he liked the most about his mission, "the demands are clear, it's simple—*perfect, nothing less.*"

That last statement is a mouthful, and ignites in each of us a fire of challenge. At the same time, we all know results like that are examples of the highest form of professionalism and plain hard work! Many of us have toyed with the idea of applying for a job with this unit. Some of us fear rejection, others doubt they'd qualify, and still others just have other career aspirations. For whatever reason we don't apply, we must all respect the unit's mission and their proven ability to perform it. The unit's reputation is such that when they say they can't do it—*it can't be done.*

As one of this prestigious unit's members put it, "Everytime the spotlight comes on, we want to be dancing!"

SPOILERS!

—could be very critical.

Brad "Mac" MacKenzie sits alone in the quiet theater. One-half hour remains until the appointed time for the wing flight safety meeting. The slides have been reviewed and a spare projector bulb is carefully tucked away in the booth. His last dry run rehearsal for the briefing took exactly 23 minutes. That's a bit long to devote to one subject, but this month's topic is rather technical. The wing commander will surely have some remarks to add, as will the DO. Brad has also invited the DCM for this meeting since the principal topic has particular relevance to maintenance.

A flight safety theme such as this is rare in these days of increasingly reliable maintenance. Mechanical defects don't cause many mishaps anymore—simple human error accounts for most of them. Today, however, the crews need some specific C-141 systems information, along with reassurance that something is being done to solve the problem.

The dark silence of the auditorium aids Brad's reflection on his own personal encounter with this latest flight safety liability. He was in the right seat on an "easy" repositioning sortie and felt lucky to be on the mission with his good friend and supervisor, the chief of safety. From the left seat of the nearly empty Starlifter, his boss had already deployed spoilers and initiated descent for landing at destination when he offered to let Brad fly the approach. He gladly accepted, and accomplished the crew briefing in his own professional and well-rehearsed style. Flight controls were "passed" and Brad called for and completed all appropriate checklists. Rolling out on final, Mac found extra yoke pressure required to maintain wings level, so he applied some electric aileron trim to counteract the force. It felt as though the left wing had become "heavy." That much aileron trim had never been required in the past, but crosswinds and an extremely light aircraft offered a reasonable explanation. Brad commented on his concern for the amount of yoke deflection and extra power required, and the flight engineer offered that their 1,000-pound fuel imbalance might contribute to the condition. As Brad smoothly retracted the spoilers and called for "approach flaps," the aircraft tried to roll further left. Brad maintained aircraft control with brute force on the yoke and a touch of rudder. They were on final and everything seemed fairly well under control, considering they now suspected fuel imbalance and unreported wind shear to be factors complicating required control inputs. After "manhandling" the aircraft onto the runway, and subsequent taxi to parking, the crew tried to sort out the cause of the problem. The light finally dawned when postflight inspection revealed the "heavy wing" experienced during approach was due to an inboard spoiler panel which wouldn't close. Of course! There's no automatic asymmetry protection for inboard spoiler panels, and only the crewmember's eyeballs observing the gauge on the instrument panel can detect a "split needles" (inboard asymmetry) condition. In this case, however, a broken lower inboard spoiler push rod caused the malfunction, and no cockpit indications alerted the crew to the real source of the problem.

> **It felt as though the right wing had become "heavy."**

The appointed time for the safety meeting is now only 5 minutes away. "Well," thinks Brad, "Enough reminiscing. Now to address the topic from a current perspective."

He pulls himself out of his front row auditorium chair to attain his full six-foot altitude as he stands before the group. . . "Fellow crewmembers," he begins, "We cannot afford to take any aircraft system for granted, especially as the C-141 ages and proceeds through modification schedules. Maintaining a well informed crew force must remain a top priority. This informational briefing is aimed towards enhancing that goal with respect to our most pressing flight control issue: SPOILERS!

"Here's the background: The C-141 spoiler system was originally designed as an 'auto deploy' system. The automatic feature was disabled years ago to provide the crew positive authority over spoiler deployments during landing. Spoilers, of course, play a critical role in reducing stopping distance during landing or a rejected takeoff. They function as more than mere "airbrakes," since they substantially reduce lift generated by the wings. This transfers the aircraft's weight onto the main landing gear and improves braking effectiveness. Spoiler deployment essentially disrupts aerodynamic flow across the wing, reducing lift. With flaps down, deployed spoilers create the appearance of great gaping holes in the wings. I encourage you new

guys to take note of that during your next preflight.

"Following the C-141 stretch modification, we discovered a new liability associated with spoilers when deployed immediately after touchdown: they can cause nose pitch up. To avoid scraping one's tail on the runway, procedures require the nose gear be firmly on the runway before spoiler deployment.

"Which brings us to our present dilemma: spoiler asymmetries. We had a costly mishap in which spoiler malfunction played an important role, so we emphasized spoiler malfunction reports from the field. In the last year or so, over two dozen have caused serious enough aircraft control difficulties to warrant 'High Accident Potential' (HAP) safety investigations. The problem is certainly identified, but has yet to be resolved.

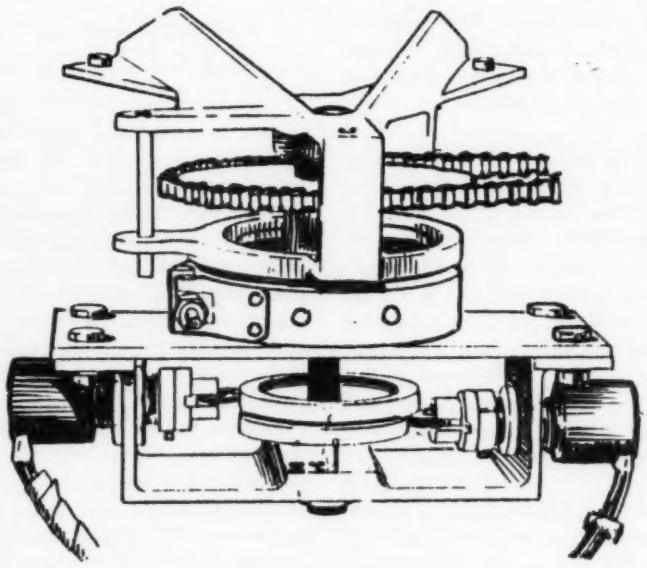
"So, let's take a look at some of these HAP incidents. The first documented occurrence reported a violent roll caused by the spoiler system after landing. Since then, recurrences have predominated at northern bases during landings in very cold temperatures.

"Permit me to read excerpts from a more recent 'typical' spoiler malfunction HAP report: *Spoiler malfunction. Runway at base X was covered with light snow; RCR 19. During landing roll, the spoiler asymmetry detection system was slow to detect a split spoiler situation and spoilers deployed unevenly. The left spoiler needle went to the 12 o'clock position while the right spoiler needle went to the 10 o'clock position. This asymmetric condition caused the aircraft to veer rapidly to the left side of the runway. The spoiler asymmetry system finally retracted the spoilers, and the crew made a second attempt to deploy the spoilers. Again, the spoilers split and the asymmetry function was slow to retract the spoilers. Landing rollout was completed without further use of spoilers. Maintenance checked the spoiler system but found no discrepancies. The left spoiler pack was leaking out of tolerance, but maintenance technicians didn't believe that was the cause of the asymmetry problem. The left spoiler pack was removed and replaced and the system ops checked good. It's undetermined why the spoilers split or why the asymmetry detection system was slow to detect spoiler asymmetry.*

"Well, gang, that scenario has been repeated again and again. In some cases, aircraft response has been more severe. To better understand how the system is supposed to work, let's review some of the design mechanics involved in normal operation: The spoiler asymmetry system is activated by either of two pairs of electrical switches, each pair wired in series. There are two switches for each wing riding on separate cam surfaces. Each cam assembly rotates in direct relation to the linear movement of the outboard spoiler's push rod.

"If the outboard spoiler drive tube on one side of the aircraft travels less than .75 inches, by the time the outboard spoiler drive tube on the opposite side of the aircraft travels 2.5 inches, an electrical circuit is closed. This closed circuit will cause the asymmetry solenoid pilot valve to become deenergized, resulting in the spoilers retracting to the closed position. Outboard spoiler drive tube travel of .75 inches represents zero deflection of the upper spoiler surface. When both wing upper spoiler drive tubes have traveled past 2.5 inches without an asymmetry, the system will no longer detect an asymmetry.

"Troubleshooting aircraft that had spoiler asymmetry problems revealed some interesting facts about the mechanical and



Spoiler Asymmetry Detector Assembly

electrical hardware associated with the system. There were three asymmetry cams with twisted splines removed from aircraft with asymmetry problems. This condition will cause one asymmetry detector to become increasingly sensitive and the other asymmetry detector less sensitive. It's possible that the resistance force to twist the cam splines comes from the electrical switches riding on the cam. The electrical asymmetry switches also play a critical role in detecting and activating asymmetry systems, so a quality testing program for these switches is pending.

Brad continues. "Moving the cockpit spoiler control lever to the ground position is supposed to cause the upper spoiler panels to open 65 degrees in a maximum of 1.5 seconds at an aircraft speed of 140 knots. Mishap reports of spoiler asymmetries causing violent aircraft roll state that spoiler position was approximately 50 percent when spoilers began to split.

"Maintenance and investigator opinions have offered that the time lag in operation of one or more of the four separate spoiler panel systems might be due to kinematic viscosity of the hydraulic fluid at lower operating temperature ranges. 'Kinematic viscosity' is a term used to contrast the fluid properties of molasses and maple syrup.

"Many of us recall standard 'mil spec' hydraulic fluid for the C-141 was changed in June of 1982, and was in use by March 1983. The kinematic viscosity of the 'new' mil spec hydraulic fluid (MIL-H-83282) is not the same as the 'old' fluid (MIL-H-5606) for all temperature ranges. Rest assured that such a detail isn't overlooked by flight safety investigators, logistics troubleshooters, and contractors analyzing our systems malfunctions.

"So, what does all of this mean to us as crewmembers? For one thing, this particular aircraft system is a complex assemblage of electrical, hydraulic, and mechanical hardware. Split-second timing in operation and component interface plays the most critical role in asymmetry prevention. Our MAC logistics community is working hard to 'fix' the problem, but they need more data. Allow me to read the following HQ MAC/LGM/DOV message to the field:

1. Spoiler asymmetry problems continue to plague our C-141B fleet. One of the problems facing the WR-ALC engineering staff in investigating the problem is the lack of detailed information surrounding the incidents. In an effort to fill this void and establish a data base from which information may be extracted, we distributed spoiler asymmetry questionnaires to be filled out by flight crewmembers whenever unusual spoiler asymmetries occur. Once filled out, they are to be turned into maintenance during debrief for forwarding to Warner Robins Air Logistics Center. All units should take action to ensure the questionnaires are accurately completed and sent to the appropriate agency. Please include any additional information, including fault reporting codes, in the remarks section.

2. Additionally, the Warner Robins and Oklahoma City Air Logistics Centers developed a tiger team to investigate all asymmetric spoiler incidents. To assure accurate investigation, the following procedures will be followed whenever an asymmetric spoiler malfunction exists: If asymmetric spoilers (as specified below) can be repeated, no maintenance should be performed on the aircraft until a depot field team can investigate the incident. (Note: Asymmetry problems at places other than CONUS bases should be recovered using normal procedures.) Impound aircraft only when the following conditions exist:

a. Spoiler panels on one side of the aircraft open to at least the flight limit position and the spoiler panels on the opposite wing did not open.

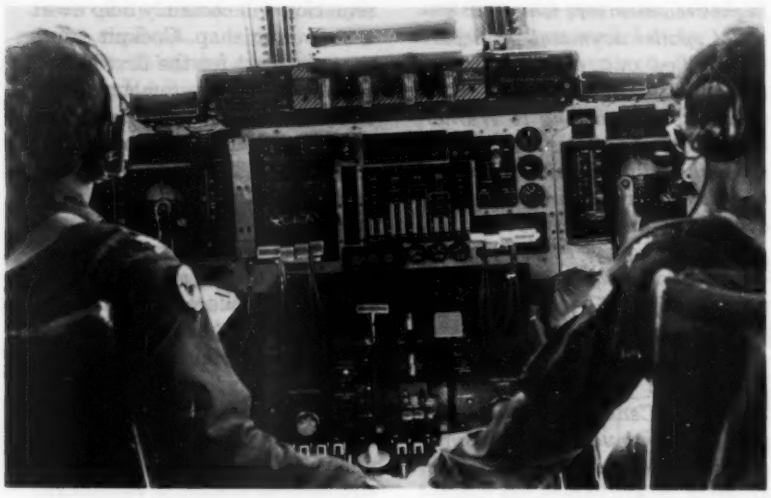
b. Spoiler panels on both sides open to at least flight limit and then one side closes (ie. blowdown) with opposite wing remaining at flight limit or more.

3. Do not impound aircraft for a normal asymmetry (ie. asymmetry occurs, asymmetry detection detects the condition and closes spoilers.)

"Well folks, that's what the 'loggies' have in the works thus far. Conclusions about the real cause for our recurring problems are difficult to reach at this point. There is speculative discussion that 'cold soaked' hydraulic servos could make the malfunction more likely. Aircrew awareness of the situation will certainly help avert a serious mishap. Cockpit crews must be alert for the first indication of spoiler asymmetry, especially considering the automatic detection and retraction system might fail. That means closely monitoring the spoiler needles on the instrument panel as the spoiler lever is moved. You can safely land and stop this aircraft without relying on spoilers, providing runway length isn't a factor. Should your spoilers fail when landing data/aircraft performance is critical, be prepared to go around.

"More time for engineering analysis and logistics implementation will be needed to resolve the problem. Be reassured, however, the support community is working hard to solve the mystery and fix the problem. They're trying to get as many of the 'facts' surrounding spoiler malfunctions to the engineers so they can develop a conclusive 'fix' for the problem.

"Ladies and gentlemen, that concludes this month's special topic briefing. Now, our wing commander would like to add some comments. Sir? . . . ." ✯



Professionalism

YOU are in charge.

(Editor's Comments:) **The following was adapted for MAC from a letter to United Airlines crewmembers by one of their vice presidents.)**

All who are fortunate enough to be members of this elite profession, the Air Force, receive personal gratification greatly exceeding that enjoyed by most of

our friends and neighbors. This is due to demands placed on us and the satisfaction that comes from meeting our day-to-day challenges. These demands and challenges must be reemphasized now because, in the coming months and years, we're going to need to maintain a heightened awareness of our individual and collective responsibilities.

Every crewmember must be an alert, thorough, and supportive part of the crew. They should work in a way that requires minimum corrective comment from the AC and provide complete inputs and professional cooperation. Aircraft commanders must be totally professional in handling their responsibility while at the same time creating an atmosphere that encourages inputs from the crew, ops, Air Traffic Control, and so forth.

There's no question that the AC is in charge—*of the whole crew.* MAC and AF regulations make this abundantly clear. The AC is ultimately responsible and he or she is accountable for decisions made. We're well aware of that accountability when we move into the left seat. It's also why, during the changing times we're about to experience, they must insure the crew performs in a totally professional manner. The AC must correct, control, and encourage when circumstances dictate, and the rest of the crew should expect and accept this responsible approach.

I can give one ready example of where your leadership can be challenged with a little incident that occurred when I was letting a new copilot fly. He did a nice job on takeoff, climb, and throughout the flight. There were thunderstorms. It was daytime, we could see them, and they were easy to dodge. He grabbed the mike and said to ATC, "There's a thunderstom ahead, and I want permission to turn 30 degrees right."

"Son," I said, "you just made your first mistake."

"What did I do?"

"You asked 'em, when you're supposed to tell 'em. You should have told 'em that there's a thunderstorm ahead and you're turning 30 degrees right to avoid it."

Now, this may sound like an old-fashioned, individualistic pilot trying to keep a tight hold on his individualism, and that's what it is because, without it, we're in deep trouble. But that isn't the only reason.

Ducking a thunderstorm is related in a way to an emergency;

"Son," I said, "you just made your first mistake."

it isn't, but if you don't miss it and plow through, there may well be one. So, in this case, you don't ask 'em, you tell 'em. Now, if it's a matter of wanting an altitude change to stay on top of a choppy stratocu deck, or fly where the winds are better, then you ask 'em. If the stratocu deck has ice, you ask 'em once, and then, if they don't get you a change and the ice is getting worse fast, you tell 'em you're going off course and changing altitude.

Unless it's a dire emergency, you listen a bit, after you tell 'em, to see what the reaction is. They might have a more serious situation at hand than yours, and it's worth listening to learn what it might be before you act. But you've established *who's who* and *what's what* by telling instead of asking.

Being more aware of telling than asking means the pilot is still in command of the airplane. More and more people on the ground try to get into the cockpit and try to fly the airplane. ATC says turn this way, turn that way, go up, go down, slow down, speed up. I've had them argue with me that there wasn't a thunderstorm in front of me when I could see it big as life and ready to engulf me if I didn't move over. Towers tell you to land short, land long, taxi slower, taxi faster. We all know how to move the stick and rudder and throttle; what to use to go up or down, and any good pilot knows that different conditions require different techniques and sometimes combinations of two or more. Ground people like to fly your airplane. ATC would love to be able, by telemetering as is done with space shots, to do your heading changes from the ground and not have to bother having you do it. You'd just ride along! Think I'm kidding? I'm not; it's been talked about in Washington circles. However, the one time, all these people disappear is when something happens. At the official investigation you and you alone were flying that airplane, and you take the blame. The ground people mysteriously didn't have a thing to do with it! Well, if you're going to take the blame, you want to be the person responsible for the action.

My point, of course, is that the man on the ground doesn't have the entire picture. He doesn't know the weather aloft, he doesn't know how the airplane is acting, he doesn't know what the fuel problems are, or even how the pilot feels. Flying is the pilot's job, and he must maintain his command and individuality. One way to do it is by telling 'em, and not asking 'em, when conditions warrant. ✈

Adapted from: *Flight Crew*

Flying-Hour Milestones

15,000

109 TAG
CMSgt. Robert G. Bradt
SMSgt. William H. Pickney

5,000

Lt. Col. Gregg R. Behrens

7,500

Col. Vernon C. Hansen
CMSgt. Paul J. Zender
SMSgt. Bruce F. Hinman, Jr.
SMSgt. Terry D. Springer
MSgt. Freddie A. Green
TSgt. George A. Barton
TSgt. Ernest J. Brinkley

2,500

939 ARRG
MSgt. Larry L. Morris
MSgt. William E. Miller
TSgt. Henry M. Gaunt

335 MAS
Lt. Col. Robert V. Palitto
Lt. Col. Kyle F. Pero
Maj. Charles W. Awbrey
Maj. Gary A. Blihovde
Maj. William Bosma, III.
Maj. Hohn R. Coller
Maj. Jerome H. Coolidge
Maj. Jack E. Eldred
Maj. Ronald H. Gertsen
Maj. Alan C. Greenhalgh
Maj. Frederick S. Hall
Maj. John M. Howlett
Maj. John C. Ingman
Maj. Gary R. Kosinski
Maj. Milton J. Lane
Maj. Thomas M. Lawler
Maj. Paul R. Manley
Maj. Gerry A. McGuckin
Maj. John A. McIntyre
Maj. Kim T. Mortensen
Maj. Michael A. Mozeleski
Maj. William A. Perry
Maj. Robert O. Polk
Maj. Stephen E. Queck
Maj. Mathew R. Robina
Maj. Earl F. Robinson
Maj. James Siemion
Maj. William B. Smiley
Maj. Charles F. Stites
Maj. Dustin H. Swanson
Maj. Frederick L. Zimmerman
Maj. Jerome H. Coolidge
Capt. Joe H. Abegg
Capt. George N. Bentley, Jr.
Capt. Jamie L. Bosworth
Capt. John P. Bzik
Capt. Kathleen A. Cosand
Capt. Robert A. Cramer
Capt. Christopher J. Cronin
Capt. Chris A. Finter
Capt. Patrick J. Hathaway
Capt. Christopher B. Keating
Capt. Patricia L. Kessler
Capt. Brad A. Lindsey
Capt. Vincent Minissale
Capt. Peter H. Remington
Capt. Ricky L. Sinclair
Capt. William A. White
SMSgt. Michael H. Wysong
SMSgt. James W. Logie, Jr.
MSgt. Chauncey C. Beasley
MSgt. Charles R. Wilson, Jr.
TSgt. James A. Brown
TSgt. Michael K. Jackson
TSgt. Paul A. Sabol
TSgt. Robert C. Shelton
TSgt. Brenda L. Thompson
TSgt. George W. Young, Jr.
SSgt. Juan Claudio
SSgt. Stephen V. Ferrero
SSgt. Kim W. Gateward

118 TAW
Lt. Col. Joyce J. Wright
Maj. Robert E. Arendt
Maj. Richard D. Coker
Maj. John R. Cole
Maj. William M. Conrey
Maj. Charles G. Cornelius
Maj. Robert W. Doyle
Maj. Franklin L. Emerson, III.
Maj. James H. Jones, III.
Maj. Edward T. Mulligan
Maj. Daniel J. Nichols
Maj. David E. Pelham
Maj. Michael A. Russell
Maj. Kenneth W. Serck
Maj. Joe S. Simpkins
Maj. Richard L. Spear
Maj. William H. Weathers
Capt. Burton L. Fuqua
Capt. Edwin L. Head, III.
Capt. David P. Pedersen
Capt. Robert D. Quarles
Capt. Charles L. Smith
Capt. Ward I. Thompson, III.
SMSgt. Jerry L. Mcqueen
SMSgt. Jack O. Nixon
MSgt. Michael E. Beamer
MSgt. James A. Buckner, Jr.
MSgt. Phillip E. Chapman
MSgt. James R. Cundall
MSgt. Michael J. Dwyer
MSgt. Lewis M. Harrison, Jr.
MSgt. Gary L. Hendrix
MSgt. John D. Hoffman
MSgt. Jerry W. Lewis
MSgt. Marshall T. Lynch
TSgt. John R. Bradley
TSgt. James B. Crawford
TSgt. Albert L. Wall
TSgt. William H. Warburton, II.

616 MAG
Col. Thomas T. Walker
Lt. Col. Ralph G. Bent, II.
Lt. Col. Don S. Bowers
Lt. Col. Andrew M. Gessner
Lt. Col. Milton F. Haas
Lt. Col. Jonathan L. Hicks
Lt. Col. James W. Walker
Maj. Roy L. Bonney
Maj. Stanley J. Collins
Maj. Mario K. Diprimo
Maj. Charles F. Donahue
Maj. Douglas W. Houpt
Maj. Charles B. Issacs
Maj. Richard P. Keida
Maj. Joseph S. Mets
Maj. Dale R. Ostrowski
Maj. James H. Summers, Jr.
Maj. Leo J. Torma
Maj. Herbert S. Trapp
Maj. David L. Vandagriff
Capt. Michael L. Anderson
Capt. John L. Buckner
Capt. William L. Chu
Capt. John C. Dieffenderfer
Capt. David E. Johnson
Capt. Benton W. O'Neal, Jr.
Capt. Lyndon D. Preas
Capt. William J. Schmid
SMSgt. Douglas S. Love
SMSgt. Donald R. Odem
MSgt. Michael R. Chase
MSgt. Bobbie L. McDomald
MSgt. Leonard P. Worcester
TSgt. Benjamin J. Grunwald
TSgt. Larry J. Nielson
TSgt. Michael L. Nippert
TSgt. Lee Smith
TSgt. Mark R. Sprenger
TSgt. Robert L. Peterson
SSgt. Samuel J. Alden
SSgt. John P. Csunyo, III.
SSgt. Theodore A. Graves
SSgt. Howard M. Jamison
SSgt. Christopher D. Jeffries
SSgt. Larry F. Vaught

14 MAS
Lt. Col. Vincent T. Cilmi
Lt. Col. Jonathan L. Hicks
Lt. Col. Jon A. Miller
Lt. Col. Ronald C. Wheaton
Maj. James H. Abbit
Maj. Alan J. Briding
Maj. Gregory H. Gaze
Maj. Walter S. Mitchell
Maj. Dewey B. Owens
Capt. Robert C. Callahan
Capt. Robert E. Callen
Capt. Steven S. Ceplius
Capt. Jon I. Demers
Capt. Brian E. Dominguez
Capt. James S. Firnhaber
Capt. Michael R. Green
Capt. Stephen J. Hepfer
Capt. Donald C. Larson
Capt. Benjamin L. Ledley
Capt. Curtis R. McIntyre
Capt. William R. Park
Capt. James E. Rennie
Capt. Stephen C. Robinson
Capt. Christopher L. Sember
Capt. Michael E. Simpson
Capt. Frank L. Wallace
Capt. Kenneth G. Wuttke
SMSgt. Edmund A. Flores
SMSgt. Michael S. Horne
MSgt. John W. Anderson
MSgt. Bismark Cosme
MSgt. James D. Godwin, Jr.
MSgt. Karl J. Hinkamp
MSgt. David E. Redmond
MSgt. Irvin W. Roser, Jr.
MSgt. Paul V. Salinaro
MSgt. John A. Smith
MSgt. John P. Stahl
MSgt. John H. Weir, Jr.
MSgt. Franklin J. White
TSgt. Patrick D. Cain
TSgt. Jonathan S. Caldwell
TSgt. Stephan C. Coleman
TSgt. James R. Day
TSgt. Peter E. Dellner

TSgt. Fernando Guerrero, Jr.
TSgt. Charles E. Harrell, Jr.
TSgt. Daniel A. Hill
TSgt. Lester C. Lichty, Jr.
TSgt. John P. Mayser
TSgt. Mark J. Murray
TSgt. Robert A. Sprague
TSgt. Philip E. Thompson
TSgt. David A. Webb
SSgt. Isaiah Allison
SSgt. Kerry D. Brown
SSgt. Oscar J. Churchill
SSgt. James M. Craig
SSgt. Gregory J. Hall
SSgt. Mark S. Kantorowicz
SSgt. Jeffrey M. Knight
SSgt. Steven L. McCray
SSgt. Mark W. Odell
SSgt. John A. Reinhart
SSgt. William A. Savage
SSgt. Mark F. Stevens
SSgt. Roger H. Thomas
SSgt. Tommy D. Thompson
SSgt. Michael I. Traub
SSgt. Timothy G. Turner
SSgt. Phillip E. Vaughn
Sgt. James L. Riddle
Sgt. Joe A. Smith

15 MAS

Lt. Col. Jonathan L. Brearey
Lt.Col. Alexander W. Golly
Lt.Col. Douglas S. Haydon
Lt.Col. Thomas E. Mohr
Lt.Col. James S. Parker
Lt.Col. Robert M. Zeluff
Maj. David R. Barninger
Maj. Michael L. Crosby
Maj. Linda H. Brown
Maj. Dan G. Driggs
Maj. James A. Fite
Maj. Michael A. Masi
Maj. Kenneth A. Merz
Maj. Richard D. Pike
Maj. Oscar L. Towne
Capt.Donald B. Craine
Capt. Steven K. Doss
Capt. Jeffrey W. Dunaway
Capt. Michael T. Fitzhenry
Capt. Tony M. Kimbro
Capt. John L. Kolkebeck, Jr.
Capt. Jon P. Palsson
Capt. James L. Putman
Capt. Roger R. Reichman
Capt. Paul B. Rich
Capt. Gary M. White
SMSgt. George T. Brogdon
SMSgt. Roger A. Venden
MSgt. David R. Drew
MSgt. Bruce J. Eckenrode
MSgt. Dale W. Fowler
MSgt. Steven Francois
MSgt. Roberto Gonzalez
MSgt. Russell A. Gray
MSgt. Francis D. Houck, Jr.
MSgt. Edward W. Jay
MSgt. Daniel J. Leist
MSgt. Wayne J. Rose
MSgt. Stuart A. Williams
TSgt. David J. Birchman
TSgt. Theodore J. Cecil
TSgt. Randall J. Frederick
TSgt. Troy J. Gibson
TSgt. Robert J. Hedrick
TSgt. John R. Henderlite
TSgt. George W. Jehle
TSgt. Walter B. Kingcade
TSgt. Michael W. Kiplinger
TSgt. Brandon S. McKey
TSgt. H. R. Minich, Jr.
TSgt. Thomas F. Morrison
TSgt. Jeffery R. Odell
TSgt. Leslie H. Ortiz
TSgt. George H. Porcher
TSgt. Richard A. Stoffel, Jr.
TSgt. William E. Vest
SSgt. Gerald A. Baker
SSgt. Gary W. Carter
SSgt. Cary C. Carter
SSgt. Bill Collins
SSgt. Anthony T. Jewell
SSgt. John T. Lawson, III.
SSgt. Henry N. Newman
SSgt. Thomas E. Norris
SSgt. Chris R. Peterson
SSgt. Neal S. Rideout
SSgt. Jeffery R. Spear
SSgt. Sidney W. Spear
SSgt. Richard L. Stephens, Jr.
SSgt. Ruth E. Tibbits
SSgt. Bill Tietz
SSgt. Douglas C. Vanbeuge
SSgt. Richard A. Walker
Sgt. Marc A. Calcaterra
Sgt. Gary B. Lowe

53 MAS

Col. Gordon S. Lochridge
Lt. Col. Martin D. Amelung
Lt. Col. Robert R. Hotaling, Jr.
Lt. Col. Edward W. Weise
Maj. Arthur F. Fiehl, III.
Maj. Gregory J. Frank
Maj. Jeffrey P. Kettrey
Maj. James M. Kline
Maj. Willard M. Kornovich, Jr.
Maj. George N. Kougias
Maj. Barbara J. McColgan
Maj. Joseph D. Ross, Jr.
Maj. Robert A. Saunders
Maj. James E. Turner
Capt. Stuart L. Bomar
Capt. Mark C. Brown
Capt. Hratch H. Derstepanian
Capt. Debra D. Hutcheson
Capt. Jeffrey Johnson
Capt. Laszlo Kovacs
Capt. Amy L. Russel
Capt. Robert F. Saylor
Capt. Greg R. Smith
Capt. Daniel K. Stone
CMSgt. James Lis
SMSgt. David Garcia
SMSgt. John G. Laufer
SMSgt. Philip J. Smith
SMSgt. Gus H. Viera, Jr.
MSgt. Bruce T. Attana
MSgt. Robert W. Fick
MSgt. Edward E. Foxworth
MSgt. Galen E. Guenther
MSgt. Leonard B. Jelks
MSgt. Terry J. Kas
MSgt. Elveret E. Manis
MSgt. Ronald D.Mantzey
MSgt. Vincent C. Minnillo
MSgt. Carlton B. Ross
MSgt. Richard A. Satryb
MSgt. Robert E. Wright, Jr.
TSgt. David L. Brown
TSgt. Donald E. Bustillos
TSgt. Scott A. Ecklund
TSgt. Antonio V. Gascon
TSgt. Robin C. Good
TSgt. Rodger L. McElrea
TSgt. Paul J. Mercanante
TSgt. James E. Moody
TSgt. David Prichard
TSgt. Michael R. Pesicka
TSgt. William C. Stevens, Jr.
TSgt. Larry A. Smith
TSgt. Kenneth D. Turner
TSgt. Douglas G. Wilson
TSgt. Todd A. Winter
SSgt. Matthew D. Armistead
SSgt. Raymond E. Assanti
SSgt. Michael E. Baker
SSgt. Steven J. Chatterton
SSgt. Henry C. Davis, Jr.
SSgt. Dana J. Dibibar
SSgt. James V. Franz
SSgt. Richard M. Fredericks
SSgt. Jim B. Gilbert
SSgt. Curtis A. Greca
SSgt. Richard D. Henry
SSgt. Mark S. Kitchen
SSgt. Chris W. Kramer
SSgt. Dick K.C. Lau
SSgt. Jeffrey Nichols
SSgt. Peter L. Osterfeld
SSgt. Randall J. Peterson
SSgt. Mary B. Riley
SSgt. Sidney B. Sidman
SSgt. Patrick J. Sims
SSgt. Charles E. Schwab
SSgt. Bruce I. Taft
SSgt. David L. Wampole
SSgt. Michael J. Whyte
SSgt. Troy Wolze, Jr.
Sgt. Ronald A. Needham
Sgt. Michael P. Plonski

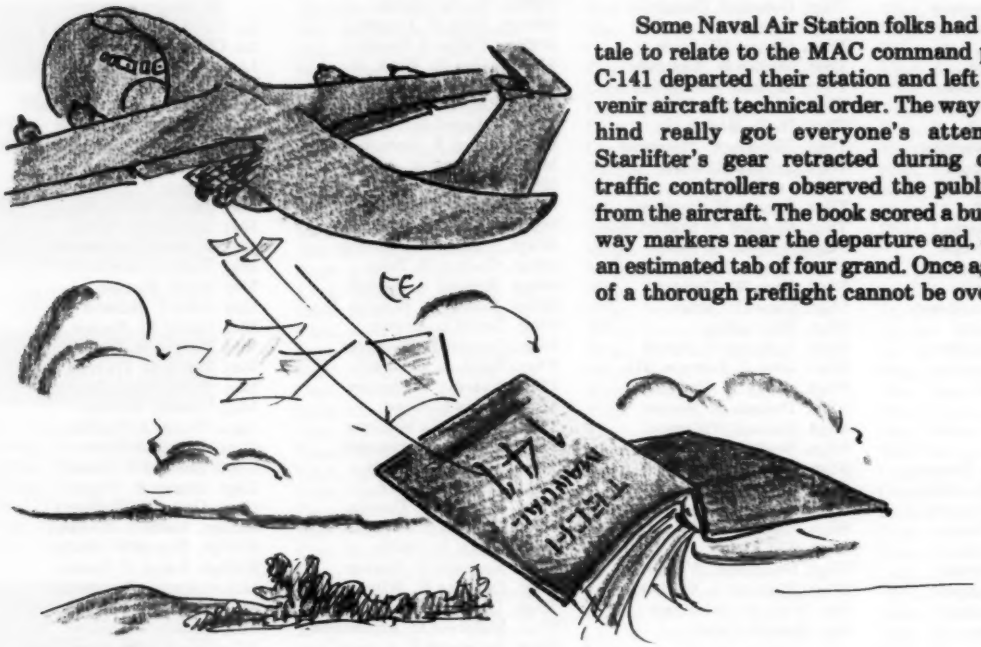
56 MAS

Lt. Col. Larry Donathan
Lt. Col. Arthur D. Evans
Lt. Col. Robert P. Garvey
Lt. Col. Randy P. Herbert
Lt. Col. Wayne R. Heskew
Maj. Richard Almassy
Maj. Donald C. Black
Maj. Milton M. Brewer
Maj. James P. Halton
Maj. James W. Harlan
Maj. Mickey D. Johns
Maj. Richard Martenson
Maj. Terry L. Mast
Maj. Tracy Rhodes
Maj. John C. Scherer
Maj. David W. Stokes
Maj. Robert D. Stone
Maj. Doren B. Tatman
Maj. William E. Timme
Maj. Stanley Warren
Capt. Frank J. Padilla
Capt. Marshall Sabol
Capt. Edward T. Smith
Capt. Danny L. Wade
Capt. Oscar L. Walker
SMSgt. Louis J. Pivonka
SMSgt. Ronald F. Ruff
SMSgt. Ralph T. Sawin
MSgt. Joseph Devenport
MSgt. William Hanson
MSgt. Jerry Langston
MSgt. Carlos Martinez-Toro
MSgt. Donald R. Moore
MSgt. Charles Moulton
MSgt. Sylvester Richardson
MSgt. Mark A. Sollis
MSgt. Lacy Cartrette
MSgt. Eugene Clairborne
MSgt. Robert Dusenbery
MSgt. Nonito Hernandez
MSgt. George W. Stacey
MSgt. Randall Sover
TSgt. Steve A. Aldrich
TSgt. Mario Castillo
TSgt. William Holwerda
TSgt. Richard W. Owens
TSgt. David Phillips
TSgt. Mark A. Walter
SSgt. Gregory Healey
SSgt. Dennis Schafer
SSgt. Robert W. Sutton

Ranks and units are those at time of award.

QUICKSTOPPERS

THEY THREW THE BOOK AT 'EM!

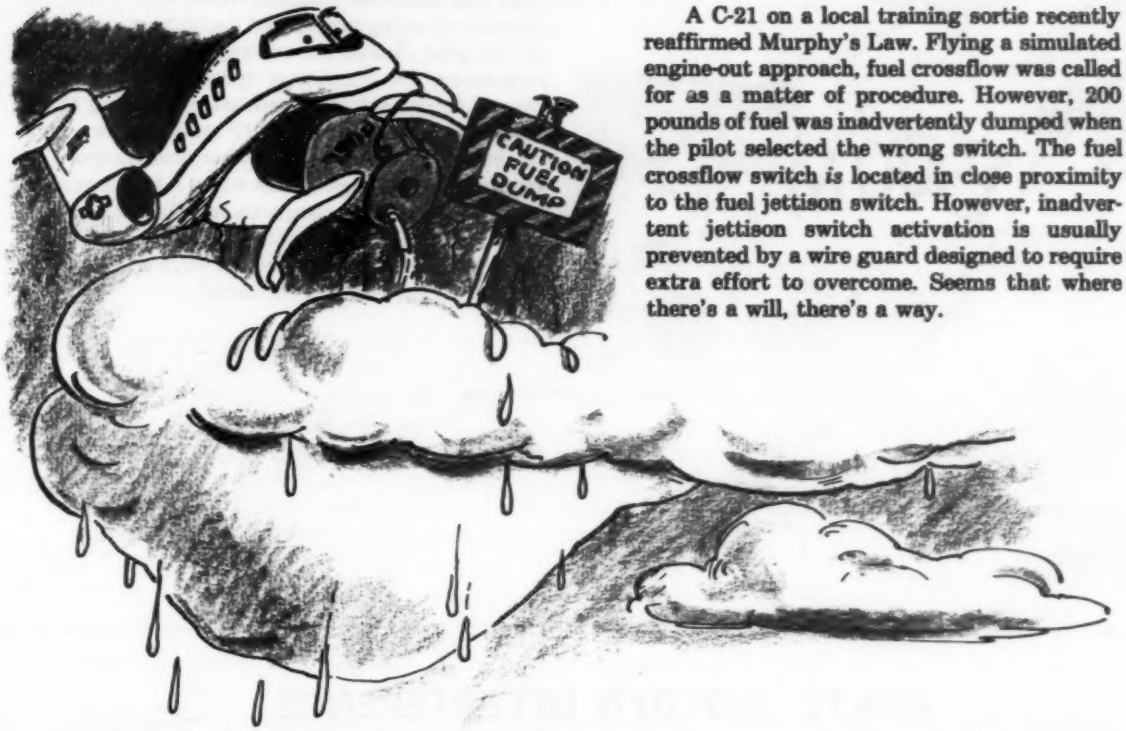


Some Naval Air Station folks had an interesting tale to relate to the MAC command post. Seems a C-141 departed their station and left behind a souvenir aircraft technical order. The way they left it behind really got everyone's attention—as the Starlifter's gear retracted during departure, air traffic controllers observed the publication falling from the aircraft. The book scored a bull's eye on runway markers near the departure end, and racked up an estimated tab of four grand. Once again, the value of a thorough preflight cannot be overemphasized!

FICKLE FINGERS

It was simply a routine engine running offload for the C-130 crew. After Landing Checklist was initiated and called "complete" as the loadmaster grasped the entrance door lanyard and unlocked the handle. The door abruptly opened with such force the lanyard held in the loadmaster's right hand was pulled away and broke his ring and little fingers. The cause for the door opening with such unexpected force was a single missed checklist item: the engineer had been distracted when the air turbine motor would not come on line, and neglected to fully depressurize the aircraft.

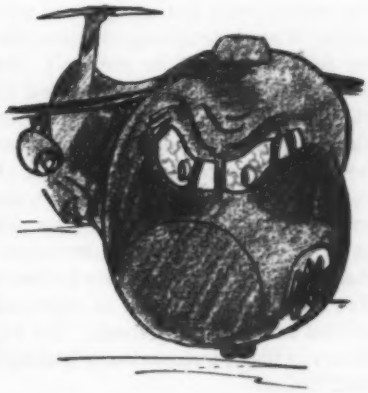
THAT BIG FUEL DUMP IN THE SKY



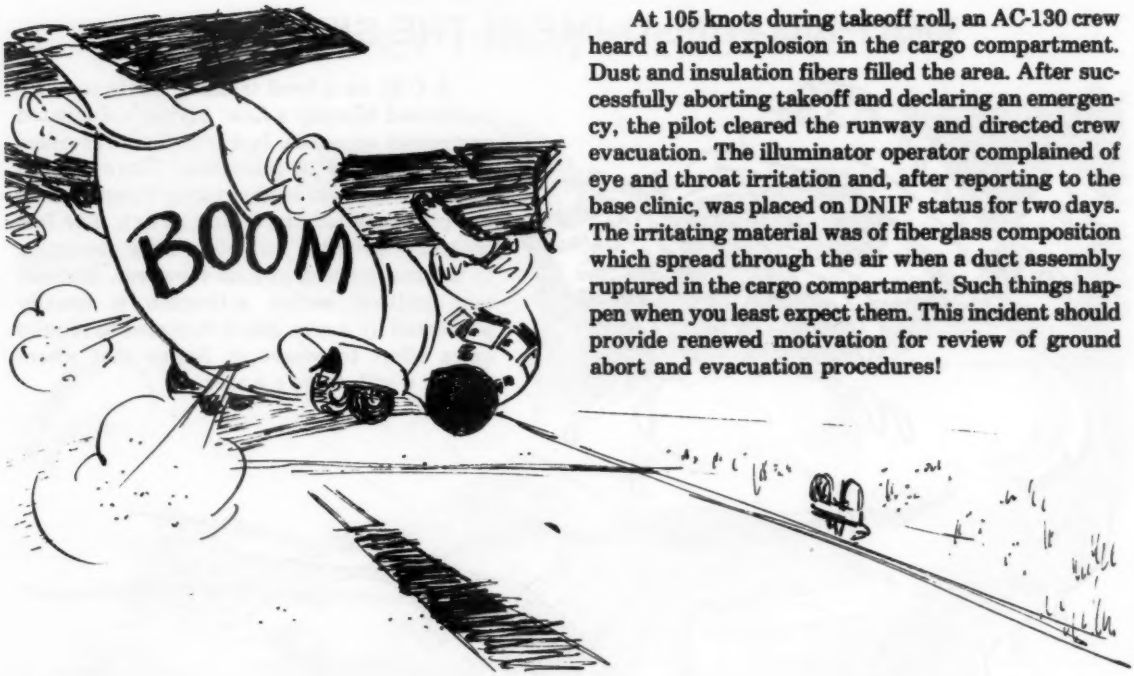
A C-21 on a local training sortie recently reaffirmed Murphy's Law. Flying a simulated engine-out approach, fuel crossflow was called for as a matter of procedure. However, 200 pounds of fuel was inadvertently dumped when the pilot selected the wrong switch. The fuel crossflow switch *is* located in close proximity to the fuel jettison switch. However, inadvertent jettison switch activation is usually prevented by a wire guard designed to require extra effort to overcome. Seems that where there's a will, there's a way.

MYSTERIOUS PULSATIONS

During the takeoff, the pilot of a C-141 released forward pressure on the control column at rotate speed, the nose immediately rotated to approximately 10 degrees nose high—with no back pressure applied! Otherwise, the takeoff appeared "normal." Next on the list of surprises came control column pulsations with approximately 6 to 10 inches of fore and aft movement. This was accompanied by a right rolling motion, requiring strong effort by both pilots to counteract. They declared an emergency and made an uneventful landing. Maintenance found a stiff and binding copilot elevator tension regulator, along with low aileron cable tension on the left and right wings. Maintenance adjusted the cable tension and re-rigged both aileron packs. The aircraft was flown without further incident and the cause for the original binding remains "undetermined." Operator beware!



HERE'S DUST IN YOUR EYE



At 105 knots during takeoff roll, an AC-130 crew heard a loud explosion in the cargo compartment. Dust and insulation fibers filled the area. After successfully aborting takeoff and declaring an emergency, the pilot cleared the runway and directed crew evacuation. The illuminator operator complained of eye and throat irritation and, after reporting to the base clinic, was placed on DNIF status for two days. The irritating material was of fiberglass composition which spread through the air when a duct assembly ruptured in the cargo compartment. Such things happen when you least expect them. This incident should provide renewed motivation for review of ground abort and evacuation procedures!

PLATE HOLDER INTERFERENCE

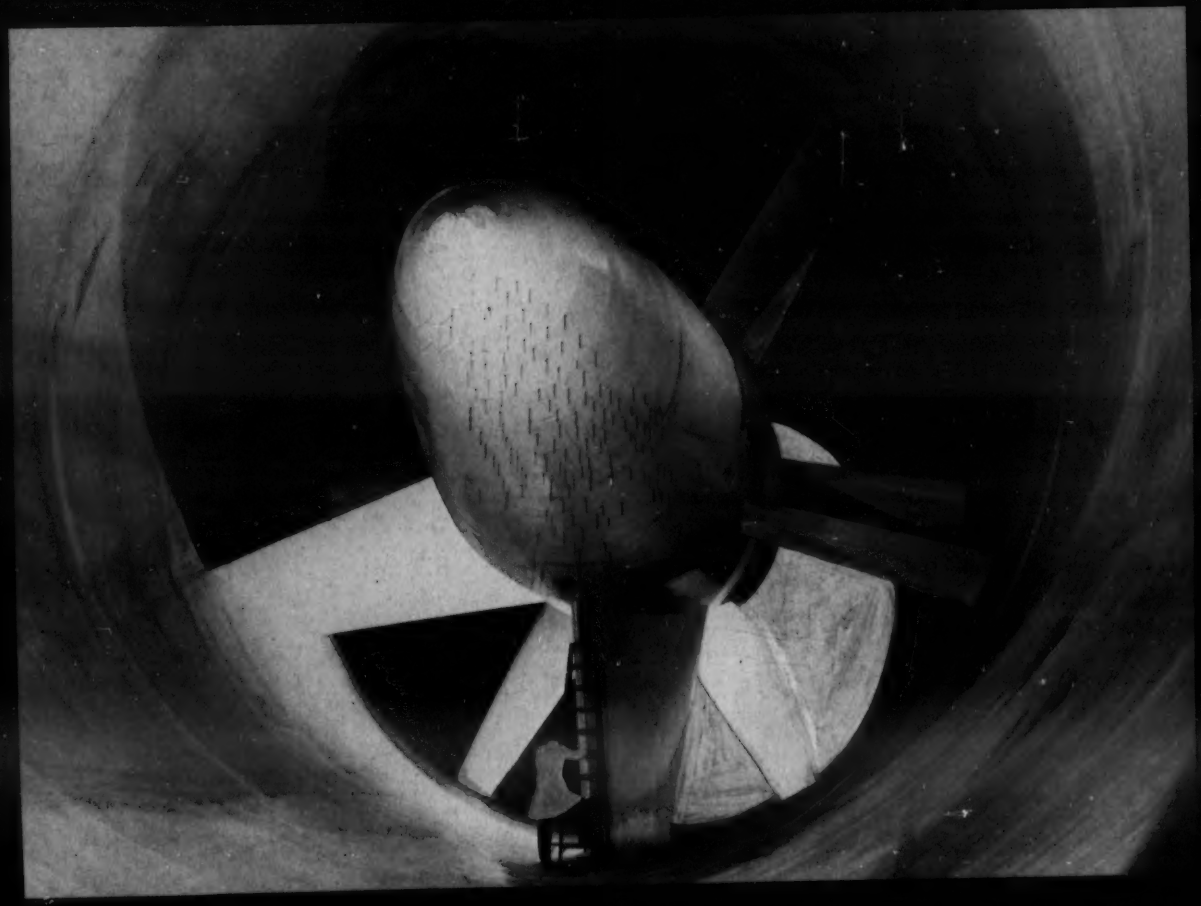
The C-5 instructor pilot prepared to demonstrate a VFR pattern from the right seat. After initiating a left turn from crosswind to downwind, he returned the control yoke to the right and past the center position. When attempting to center the yoke, however, he felt resistance he couldn't override. Fearing jammed ailerons, he again moved the yoke back to the right, and found it would center without interference. An additional pilot on the crew noticed the bottom of the copilot's approach plate holder had jammed against the top of the yoke during initial maneuvering. The facts were later explained to maintenance and, as an interim corrective action, attachment bolts on approach plate holders were tightened. The hazard occurs when an approach plate is "permitted to flop around freely." So, be alert for freely flopping flight form fixtures fouling your flight control inputs.

After Deadlines

WE THOUGHT THE FOLLOWING FIGURES WILL INTEREST YOU--Although these rates show a marked improvement over 1986/1987, let's continue striving for a **ZERO RATE.**

1987/1988	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN 88	FEB	MAR
MAC Rate	0.7	0.4	0.4	0.5	0.7	0.8	0.7	0.7	0.7	0.4	0.4	0.4
USAF Rate	1.7	1.6	1.7	1.7	1.7	1.7	1.5	1.5	1.5	1.4	1.5	1.5
21 Air Force Rate	0.0	0.0	0.0	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
22 Air Force Rate	0.6	0.6	0.6	0.6	0.6	0.6	0.3	0.3	0.3	0.0	0.0	0.0
23 Air Force Rate	1.6	0.5	0.5	0.5	1.1	1.6	1.6	1.6	1.6	1.1	1.1	1.1
MAC Rate 1 Year Prior	0.1	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.8	0.8	0.8
MAC Mishaps by Month	0	0	0	1	1	1	0	0	0	0	0	0

AN AIR NATIONAL GUARD C-130 from the 109th Tactical Airlift Group, Schenectady, New York, comes to the rescue--A distemper epidemic in Greenland killed 90 percent of the dog population, seriously hampering northern Greenlanders' food gathering. The C-130 was used to airlift 220 replacement dogs, 4,400 pounds of dog food, and 7 dog handlers from Disco Bay to Thule AB in the north. In addition, MAC-gained ANG planes airlifted food packages, snowmobiles, and 1,600 liters of fuel for use by villagers who lost dogs to the epidemic.

WE STILL NEED ONE MORE --- An *editor*, that is! We need someone to be a proud editor of the world's best flight safety magazine, *The MAC Flyer*. The job is exciting, challenging, and rewarding. When asked what you do for a living, your answer, "I'm an editor on *The MAC Flyer* staff" is received with an appreciative "Aaaaah!" We're looking for a rated major/captain with a strong desire to write. Flight safety experience, although not essential, is a plus. If interested, contact Major Tom Weinzierl, Supervising Editor, HQ MAC/IGFE, Scott AFB, Illinois, 62225-5101, AV 576-3534/5542, or commercial 618-256-3534.

U.S. GPO: 1988-554-015/80007